

The MILLING WORLD

and CHRONICLE OF THE GRAIN and FLOUR TRADE.

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THE VULCAN HORIZONTAL STEAM ENGINE.

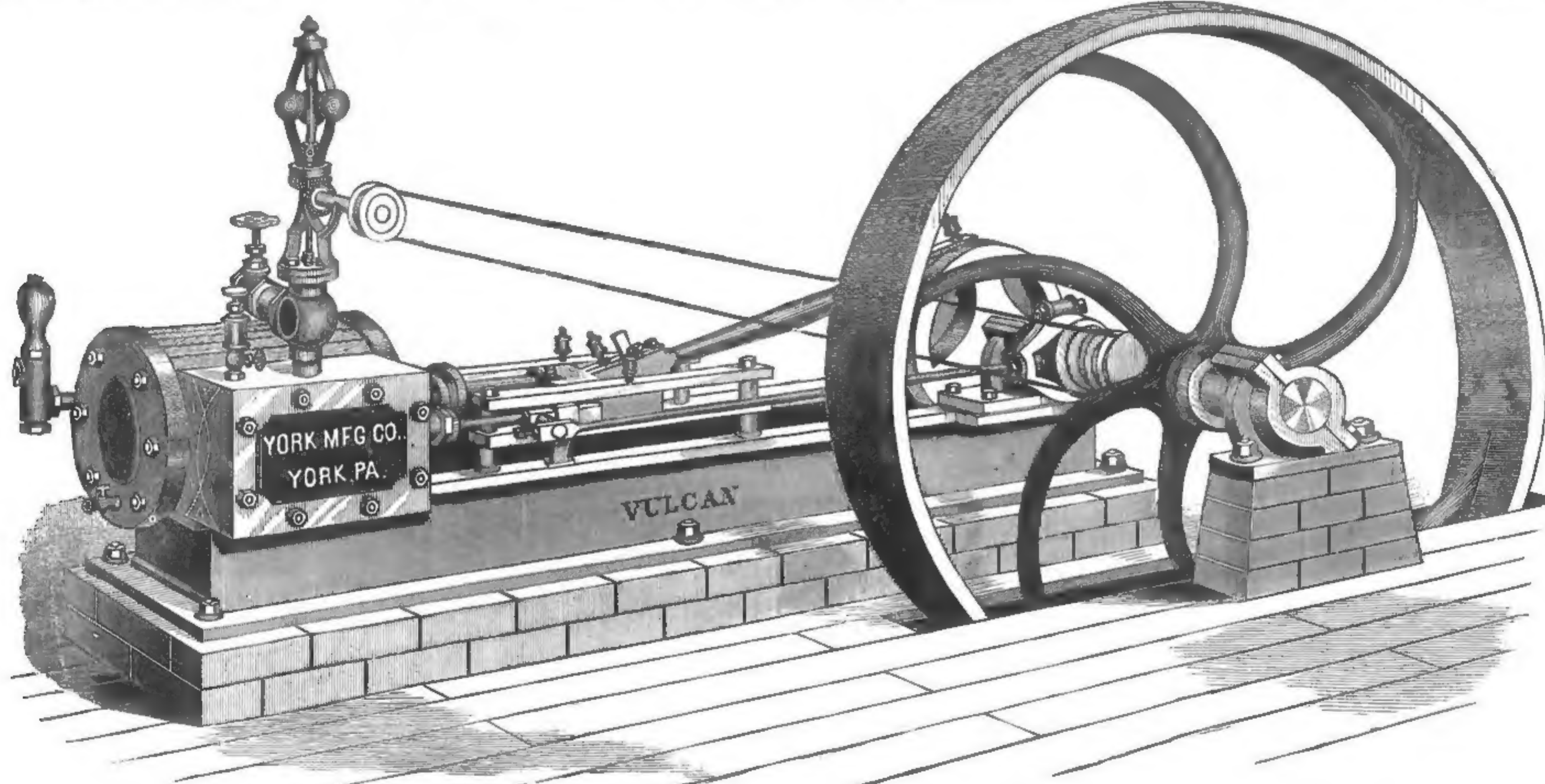
THE engraving on this page represents the improved "Vulcan" horizontal steam engine, as built by the York Manufacturing Co., of York, Pa. It has a plain slide-valve, with steam-chest running full length of cylinder, in order to have the steam-ports as near the ends as possible. The valve is very accurately proportioned and fitted. The piston-rod and valve-stem are of steel. The wearing surface on cross-head is large; the guides are of the locomotive pattern, and the crank-shaft journals are long. The engine is provided with side crank-shaft as shown in cut, either right or left-handed, or with centre crank-shaft projecting on both sides of engine, and working through journal boxes keyed and bolted to each side of the bed. The engine is built in sizes ranging from 8 to 45 H. P. and is attractive in appearance, the top of the

years and remember the man who initiated this revolution: Frederick Wegmann.

Ten years have passed since the burr system was supplanted by rollers. A man, until that time unknown, F. Wegmann, of Naples, later of Zurich, conceived the idea to produce flour with rollers made of porcelain, claiming that the middlings could be reduced more advantageously, giving better results than any other system of milling known at the time. A new "roller mill," with automatic pressure, and rollers made of porcelain; such was the invention announced, which alarmed the milling fraternity ten years ago. What has happened since then? The changes in milling were, indeed, inaugurated by Wegmann, and can be traced back to this source, either directly or indirectly. Directly, Wegmann has given us a machine which is at present recognized all over the earth by the milling fraternity. Indirectly he has called into life the system of roller milling with chilled iron rollers by the primarily doubtful results of his porcelain

same results were obtainable by chilled iron rollers. Ten years ago chilled iron was new for milling purposes, little known and less tried. But the results obtained since then speak for Wegmann. Smooth chilled iron rollers are used to-day in the same way as he wanted his porcelain rollers to work. The middlings are crushed, disintegrated; the semolina reduced to flour on burrs. If the idea of porcelain rollers had been conceived by a less inventive genius than Wegmann, it would have been doomed to oblivion at that time. But for him, who knew how to observe, the effect of his porcelain rollers differed from that of the iron rollers and after long continued experiments, he discovered that which gave them henceforth their superiority over the iron. Friction obtained by a differential velocity of the rollers. The old system fell, the new one gained ground and retained it; the smooth rollers were supplanted by roughened ones; the simple pressure of equal velocity made room for the friction and pressure of unequal velocities;

In addition to this, Mr. Wegmann's Victoria mill is all his own invention; nobody can say that he has made use of anybody else's ideas. But, on the other hand, how many have imitated him, or "adopted" his ideas? His original method of placing the two rollers, has for a long time since been the type of all roller mills. The large porcelain rollers have called forth the large iron rollers. The first automatic stop motion was placed on Wegmann's Victoria mill; others have imitated him; his "noiseless gearing," after it became known and appreciated, has been used in other machines. The importance of Wegmann's inventions was appreciated recently by the Patent Office of the German Empire during a law suit, as follows: "It is well known that the introduction of Wegmann's porcelain rollers has greatly benefitted the German milling industry, and the advantages derived from them are so large that the loss inflicted upon the country on account of their manufacture in foreign lands, cannot be taken into ac-



THE VULCAN HORIZONTAL STEAM ENGINE.

bed-plate being bright finished as are also the cylinder-heads, steam-chest cover, cross-head guides, connecting-rod and shaft. It is supplied with any style of governor desired, patent glass oil-cups, lubricator, drain-cock and boiler-feeding pump. The builders of this engine will take pleasure in supplying to the interested reader full particulars concerning this, or any other of their extensive list of engines, turbine wheels and other machinery.

AN ANNIVERSARY OF MILLING PROGRESS.

[From *Die Muehle*.]

In 1874 the first few scattered porcelain rolls were introduced into Germany, to be followed in 1875 by increased numbers. Since then ten years have passed, and the revolution in milling, begun at that time, has asserted its influence at a constantly increasing rate, so that to-day even the smallest mill has not escaped entirely. In view of this it is quite appropriate to review these

rollers and the new system of reduction. It is well known that the firm of Ganz & Co. manufactured and sold chilled iron rollers under Wegmann's patent for a long time. In order to appreciate this fully, we must be able to appreciate the situation of ten years ago, when Wegmann made his first announcement. He claimed for his rollers "simple pressure, no friction;" the middlings produced on the rollers were to be disintegrated on burr stones and well bolted; the semolina was to be "reduced to flour" on burrs; he claimed that it could be done with "smooth rollers, traveling at the same velocity, by simple mutual pressure," and that "he had used porcelain in the manufacture of the rollers, on account of its being the purest, cheapest and hardest material." We must recall Wegmann's first circular from 1875 in order to comprehend how all the advantages of the new system were questioned as soon as doubts were raised as to the possibility of manufacturing a sufficient quantity of good porcelain rollers, and when it was demonstrated that the

gearing became a necessity, and in place of the former crushing effect of the porcelain rollers, necessitating a further disintegration of the product, we have to-day the Victoria roller mill, capable of reducing semolina and middlings, and solving the problem of roller milling in the most simple form. The porcelain has done its duty and has given satisfaction; it is at present more indispensable for the reduction of middlings than even its inventor dreamed of.

"Chilled iron or porcelain" has been discussed extensively. That is passed, however: each of the two has found its place. Chilled iron in the form of corrugated rollers does excellent service for the production of middlings; porcelain, as a full roller, for the reduction of the middlings. Whether this position will be maintained is a question to be decided in the next few years. Progress seems to take side with the porcelain as it has come more extensively into use within the past few years, and its inventor never neglects an opportunity for improvement.

count." In this way the German Patent Office justifies its deviation from its ordinary course of action. So far Wegmann is the sole manufacturer of porcelain rollers. Attempts at competition have been made at times, but they have failed. The construction of the cylinders of porcelain cannot be carried on successfully by everybody; not every variety of porcelain can be used for that purpose and the necessary large faultless pieces cannot be produced everywhere. The large experience obtained by Wegmann as a miller comes to his aid against those machinists who in order to construct roller mills, commenced to nibble at milling. He has obtained his present eminence by persistent efforts and constant application of his inventive genius to improved construction, an undertaking in which his intimate knowledge of milling has been used to the greatest advantage. F. Wegmann, of Zurich, an unknown man in milling circles ten years ago, has since then obtained a reputation which will last forever. We honor him in this retrospect of the advance made in

milling during the past ten years, which was inaugurated by him, and hope that his labors in this field will receive the recognition which they so fully deserve.

EXPORTS OF BREADSTUFFS.

Under the heading of exports of breadstuffs from the United States to Mexico, Central America, British Honduras, the West Indies and South America, the Bureau of Statistics in its quarterly report publishes a series of figures which give the quantities for every year from 1860 to 1884. There is perhaps no better way to illustrate in the most comprehensive manner what a large field there is in the countries to the south of us for American merchants to cultivate trade relations with, and at the same time, how very little there has been done and how insignificant the attempts must have been so far, if any have been made at all, to open up new markets for our products with nations who are our nearest neighbors. The export seems to have been left to its own needs entirely and the lack of any systematic effort is plainly visible in the spasmodic rising and falling of the figures.

The table of breadstuffs exported to Mexico reads as follows, and is given for the years ending with June 30:

	Indian Corn—	Wheat and	All
	Bushels.	Dollars.	wheat flour other
1860.....	80,329	78,062	247,206
1861.....	13,877	9,993	100,033
1862.....	18,364	14,017	282,810
1863.....	268,653	208,849	777,122
1864.....	187,014	256,924	855,772
1865.....	181,462	347,464	1,089,016
1866.....	158,024	121,553	584,013
1867.....	14,218	18,874	549,965
1868.....	7,262	9,051	843,206
1869.....	72,216	72,439	278,111
1870.....	62,859	65,292	200,871
1871.....	173,585	169,350	225,718
1872.....	21,039	27,293	218,279
1873.....	104,146	99,168	110,525
1874.....	65,881	40,049	96,666
1875.....	9,892	9,092	102,173
1876.....	98,487	76,945	108,952
1877.....	64,776	55,858	88,913
1878.....	286,109	207,623	171,450
1879.....	126,618	95,802	120,971
1880.....	85,703	68,743	69,072
1881.....	352,510	240,182	93,757
1882.....	419,268	332,642	103,528
1883.....	476,463	391,751	178,408
1884.....	1,304,776	1,409,313	174,067

Corn does seem to be king in these figures, leaving a wide field for wheat and wheat flour, and when we know that Hungarian flour is sold in the markets of Brazil, it seems that Americans do not give the necessary attention to their neighboring markets.

THE EXECUTIVE COMMITTEE MEET.

Secretary's Office,
Milwaukee, Wis., Jan. 5, 1885.

Dear Sir:—There will be a meeting of the entire Executive Committee, Millers' National Association, at the Grand Pacific Hotel, Chicago, Jan. 19th and 20th, 1885.

This meeting is called for the purpose of entertaining and discussing any and all matters of value and interest, and attend to any business that may be deemed important and for the good of the Association or its members. Among other matters requiring attention may be mentioned:

Insurance (fire) and the desirability of an increase in the facilities of Mutual Companies.

Rebates on jute bags exported with flour.

Transportation—Domestic and Foreign.

Bran Compressors—To decide upon the merits of such as may be presented or ready for trial.

It is not expected this meeting will be confined exclusively to the regular Executive Committee, but each State is requested to send one or more live representatives.

Respectfully,
S. H. SEAMANS, Sec'y.

In response to the above call, the following gentlemen, representing seven States, met at the Grand Pacific Hotel, Chicago, Monday, A. M., January 19th, 1885:

J. A. Christian, Pres., Minneapolis, Minn.
S. H. Seamans, Sec'y, Milwaukee, Wis.
C. H. Seybt, Chm'n Ex. Com., Highland, Ill.
J. A. Hinds, " " Rochester, N. Y.
Homer Baldwin, " " Youngstown, N. Y.
Rob't Colton, Sec. O. M. Ass'n, Belfontaine, O.
N. Elles, " Ind. " " Evansville, Ind.

H. C. Cole, Chester, Ill.
H. C. Halliday, Cairo, " "
D. R. Sparks, Alton, " "

Other States would have been represented but for blockade of railroads by snow.

Meeting called to order by the President, J. A. Christian, of Minneapolis.

On motion of C. H. Seybt, the subject of Mill Insurance, was taken under consideration. In discussing this matter, Mr. Seybt stated that the rate of insurance on flour mills, as adopted by the stock companies within the board, was extortionate, and by way of illustration gave his recent experience. A stock company in St. Louis that had been carrying a \$5,000 policy on his mill for 16 years, notified him at the date of its expiration, a few days since, that they would only take \$2,000, and the rate would be increased to 5.60, while the actual cost the past year, in the Millers' National Insurance Company—which takes nothing but mill risks—was less than 3 per cent., and the average for the past eight years, or during the life of the Company, was only 52-100 of the old rates established by the board companies, showing conclusively to his mind, that mutual companies properly conducted, which make a specialty of mill insurance, can, and do insure cheaper than stock companies.

Mr. Sparks, of Alton, favored those present with his experience in mutual companies, particularly in the Millers' National and the Illinois Millers' Mutual, (of the latter of which he is president), and urged strongly the expediency of an increase in the maximum by the Millers' National, on one risk to \$15,000, which, he contended, was no greater proportion for the company to assume in its present prosperous financial condition, than when the company first increased its maximum to \$10,000.

After a general discussion by Messrs. Halliday, Cole, Baldwin and others, it was

Resolved, That the matter of insurance be postponed until the afternoon session, when Mr. Barnum, Secretary of the M. N. Ins. Co., could be present; he being a practical insurance man, might give the committee much information that would prove valuable in discussing the subject under consideration.

Which was agreed to.

REBATE ON JUTE BAGS EXPORTED.

Information having been received by the Committee, since the call issued for this meeting, that the difficulties which had of late obstructed the collections of rebates had been removed, and the further information that the Department of Government had commenced the payment of delayed claims, therefore any action on the part of the committee was deemed unnecessary. Adjourned.

AFTERNOON SESSION.

Mr. Christian in the Chair.

The Secretary stated that inasmuch as inquiries had been made regarding the proper party entitled to the custom house B. of L. for flour sold in jute bags for export to domestic buyers, he believed that an expression by the committee would be accepted generally as a basis of future transactions.

After a full and general discussion, Mr. Seybt offered the following:

Resolved, That millers selling flour for export in jute bags shall be entitled to the bill of lading for the purpose of collecting the drawback on said bags.

Resolved, That the Secretary of this Association be and is hereby instructed to publish this resolution in the milling papers.

Mr. W. L. Barnum, Secretary of the Millers' National Insurance Company, being present, the subject of mutual mill insurance was taken up for consideration; but owing to the lateness of the hour and the limited time at Mr. Barnum's disposal, it was suggested, and the suggestion adopted, that the subject be made the special business of the committee, to be taken up at 10 o'clock, A. M., to-morrow, at the office of the Insurance Company on La Salle street. Adjourned to 7 o'clock.

EVENING SESSION, NEW YORK.

Mr. J. A. Hinds, Secretary of the New York State Millers' Association, presented a bill for \$500, made by Judge H. R. Selden of Rochester, based upon an agreement claimed to have been made with the Defence Association of New York Millers in 1876, concerning a contingent fee, to be paid to him in case the Denchfield suits were finally decided in favor of the defendants.

The committee refused to allow said claim for the following reasons:

1st. While the committee has not the original before them, the wording of the receipt attached to the account rendered, indicated that the contingent fee was based upon a successful and final termination of the litigation under the auspices of Judge Selden, and the defendants to these suits. Judge Selden, however, was defeated in all the suits in the courts below, and success was not secured until taken into the higher courts by the National Millers' Association (its attorneys, together with a liberal expenditure of time and money), and it is the opinion of this committee that Judge Selden cannot consistently claim a contingent fee under the circumstances.

2d. The agreement with Judge Selden was entered into by the defendants (millers of Rochester, New York), many years prior to the time of the National Association assuming charge of the defence in the Denchfield suits, and the agreement never having been made known to, or authorized by the Association, they must refuse to entertain the claim.

Signed. C. SEYBT, Ills., Chairman.
J. A. CHRISTIAN, Minn.
S. H. SEAMANS, Wis.

BRAN COMPRESSORS.

The Secretary stated that no machine had yet been presented, in actual working order, that fully met the requirements laid down by the committee governing the award. There were, however, several machines under way, and nearing completion, three of which were being built by large machine works that usually made a success of the machinery they built. He felt satisfied they would either solve the problem or prove the requirements impracticable. In addition to the parties named above, there were others, inventors, working individually, that had great hopes of being successful, while there were others, perhaps one hundred, that had fallen out of the ranks and given up trying to secure the offer.

Under these circumstances, it would be for the committee to say whether further time should be granted.

Mr. Seybt offered the following:

Resolved, That the award of the premium of \$1000 for the invention of a Bran Compressor coming up to the requirements as stipulated by the Association be hereby deferred until December 1st, 1885.

Mr. Seamans stated that this would necessitate delaying the award till the date named in the resolution, whereas the parties likely to be successful would be ready with their inventions long before this date. He would therefore offer an amendment fixing the date of expiration July 1st, 1885, which was approved, and the resolution as amended was adopted.

Adjourned "to 9 A. M. to-morrow," January 20th.

MORNING SESSION.

J. A. Christian presiding.

LONDON EXPOSITION, 1886.

Mr. Seybt desired to call attention of the committee to the fact that Great Britain would hold an exposition in London in the spring of 1886, open to the world. Each country making a complete exhibit of its own; for instance, America would be invited to have an exposition of its own in the city of London, at the same time that other nations and countries held similar exhibits; and

he suggested the propriety of the milling industry, (it being one of the largest) and its production having the most extensive sale in Great Britain of any in this country, being well and fully represented and in order that a favorable exhibit might be secured, he believed the Association, as an organization, should encourage, and through its officers and members use every endeavor to secure such a representation of milling products as would show to foreign consumers, and the world at large, the diversity and extent of our milling facilities. After a thorough discussion of the matter the following resolution was offered by Mr. Elles, of Indiana:

Resolved, That a committee of seven be appointed whose duty it shall be to take cognizance of the exposition of American products, to be held in London, May 1886, and further, that Mr. Seybt, who is soon to visit London, is hereby instructed to investigate and report to the Secretary what action is necessary, in order that the American milling industry may be properly represented.

Resolution adopted.

The committee then adjourned to the office of the Millers' National Insurance Co., on La Salle st., to confer with the officers of the company regarding the increase of the maximum rate of insurance on mills from \$10,000 to \$15,000.

2 P. M. AFTERNOON SESSION.

Meeting called to order by President Christian. The conference with the officers of the Insurance Company resulted in the following being offered by Mr. Cole, of Chester, Ill.

Resolved, By the Executive Committee of the Millers' National Association, in session at Chicago, Ill., Jan. 19th and 20th, 1885, that the managers of the Millers' National Insurance Company, be requested to increase the maximum of insurance on any one risk to fifteen (15) thousand dollars, providing at least fifty (50) applications for such additional insurance are on file and are up to the requirements of said company.

Resolved, That the Secretary is hereby instructed to send a copy of the above resolution to the manager of the Millers' National Insurance Company.

Adopted.

EXPORT COMMITTEE.

Mr. Seybt called the attention of the committee to the unprotected and irregular manner in which our export trade was done, it being subject to no rules or regulations of our own, while the transportation company and the European buyer formulated such rules and regulations as best protected their interests, which were not always to the best interest of the seller or exporter, and it was his belief that this association should take some action looking to the protection of those engaged in the trade, which now covered a majority of the mills in the association.

After a very general discussion, and exchange of experiences, regarding delays in transit—Arbitrations—Rules of the London Flour Trade Association—Liability of seller and buyer, etc., etc., the following was adopted.

Resolved, That a standing committee of five be appointed, to be known as the Export Committee, whose duty it shall be to facilitate the export trade in flour by taking action calculated to remove as far as practicable all present obstacles and hardships connected therewith, having their origin either with the consignor, consignee, with the transportation or insurance companies, to bring about and establish a better understanding by and between all parties as to their respective rights, duties and liabilities both at home and abroad, to establish such rules and regulations as they deem advisable for the promotion of the trade. The said committee to receive and give careful consideration to all complaints submitted in writing from members of the association, and, if necessary to employ competent legal counsel, and without further instruction or authorization, bring any case so presented and investigated before the proper tribunal for adjudication, at the expense of this association, providing no cases shall be contested by the association unless they embody principles of general interest and importance to the export trade.

The committee called for in the foregoing

resolution, was nominated and appointed by the Chair, to wit:

C. H. SEYBT, Highland, Chm'n.
S. H. SEAMANS, Milwaukee, Sec'y.
Z. T. COLE, Chicago.
J. A. Christian, Minneapolis.
M. MATHEWS, (of S. & M.) Buffalo.

There being no further business before the meeting, the committee adjourned, sine die.
S. H. SEAMANS, Sec'y.

LIENS FOR MACHINERY FURNISHERS.

BY MYRON T. BLY.

I am under obligations to "Manufacturer" for calling attention in THE MILLING WORLD of Jan. 29, to some of the statements contained in my article under the above title, recently published in this journal. I only regret that I have not the leisure just now to reply to "Manufacturer's" criticism at greater length. I may preface my remarks here, by saying that it is extremely difficult, within the limits and subject to the scope of a popular newspaper article, to set forth the various nice distinctions and rules laid down by the courts, on such a complex subject, and a writer may easily be misunderstood and misinterpreted. This is especially the case, if he confines himself to general rules, and he can expect to do nothing else under the circumstances.

In my article on "Liens for Machinery Furnishers," I attempted only to give in a general and superficial way, some hints as to the rules of law existing. I was obliged to base the article on a former article published in this journal on the subject of fixtures in mills, to which I expressly referred and perhaps the fact that "Manufacturer" did not have in mind the contents of the article on "Fixtures," has something to do with his misconception of the spirit of my remarks. In the main, however, his criticisms, as he understands me, were fairly warranted.

Before proceeding to the point of criticism, let us look at the allusion of landlord and tenant. I made no allusion to such a case and purposely, because it would open up a distinct branch of the law of fixtures, requiring more space for discussion than I could expect to command. I did allude to it, however, in the article on fixtures, and stated in a general way, that the policy of the law is to regard machinery as personal property when put in by a tenant, whenever it can be done without a too flagrant violation of precedents. The presumption, is, in such a case, that the tenant has not intended to enrich his landlord's real estate by putting in permanent fixtures, and the law allows him to remove machinery that he may have put in, if it can be done without destroying a building. Right here, "Manufacturer" will see when and how the question of intent becomes significant. In a word, a tenant will be allowed to remove machinery which he may have put in, that is, it will still be regarded as personal property, when, if put in by the owner of the building, it would be considered a part of the realty and pass with the land.

I will now pass to the main point of the criticisms. I did not intend to say, and do not wish to be understood as holding, that things originally personal in their nature, and attached to the realty in such manner that they may be detached without material injury to them or to the building or realty with which they are connected, may not, although so connected with the land as that they would, in the absence of agreement or special relation between the parties in interest, be deemed part of the realty, have their original character as chattel preserved by a contract to that effect. There are plenty of adjudged cases holding to that rule. There are cases holding that the character of articles as personal chattels, or, as a part of the freehold, may depend much upon the agree-

of the parties in interest, and the effect of a contract such as "Manufacturer" quotes, has been frequently so construed by the courts. But it has never been held, so far as I can learn in the time I have been able to devote to the subject since the publication of "Manufacturer's" article, that any agreement which could be made, will absolutely prevent machinery from becoming fixtures. A conditional sale, title not to pass until paid for, or a chattel mortgage to secure part of the purchase price, might have much to do in preserving the chattel nature of machinery, in case it should come before a court to decide whether the machinery was personal property or a part of the realty, but neither such a sale or mortgage will ensure the articles remaining personal property.

All of the cases hold that if the machinery is so affixed to, and incorporated into, a building as to become a fixture, the conditional sale, or the chattel mortgage, or the express agreement that the machinery shall remain personal property until paid for, is of no avail. I repeat my original statement, "The conditional sale loses its force."

There is a leading case in which the purchaser of an outfit for a grist-mill, including engine, boilers, shafting, gearing, &c., gave a chattel mortgage upon it, put it into the building prepared for it, and then gave a real estate mortgage. The latter was foreclosed and it was held that the mill machinery had become a part of the real estate and passed to the purchaser on the foreclosure. To show the reasoning of the courts in deciding such cases, I will quote from an opinion of the New York Court of Appeals: "A man employs a carpenter and a mason to build a brick house for him upon his lot and pays them in full the price agreed upon. The mason puts his brick in the walls. The carpenter places his joists and timbers in the proper places in the house. The house is finished and is occupied by the owner. It then appears that the maker of the brick held a chattel mortgage upon them, executed by the mason, and that the sawyer of the timber held a chattel mortgage upon it, executed by the carpenter. Are these articles, now a part of the house, still held upon the chattel mortgages, so that the creditors can despoil the house to obtain their possession, or compel the owner to pay their value? I take it that they are not. Their character as personal property is ended. They have become a part of the house; they are real estate; will pass under a deed of the land; may be subjected by a mortgage of the land or may be held by the owner of the house."

The court using this language decided that milling machinery which had been chattel mortgaged and put into a mill, became part of the freehold and passed to the purchaser on the foreclosure of a real estate mortgage subsequently executed; such was the case before it.

I have perhaps said enough to explain my position. If machinery becomes a fixture within the legal meaning of that term, a chattel mortgage for the purchase price or a conditional sale loses its force and it can be so affixed to the land or building as to become such a fixture. If "Manufacturer" considers that his conditional contract will absolutely ensure him title to the articles, until paid for under all circumstances, then I believe his notion of the law is a mistaken one. It will depend upon how the articles are affixed to the realty, or to what extent incorporated into a building. This is the crucial test. His conditional contract may preserve his title, or rather preserve the chattel nature of the articles, when otherwise they would become a part of the realty, because the contract will assist in overcoming the presumption that the articles were put in with the intent to make them permanent accessions to the freehold, and will raise the contrary one, if an intent

to preserve their personal character. But that is as far as the contract will help the furnisher of machinery. It can not and will not prevent machinery from becoming fixtures before the purchase price is paid. The seller's remedy is an action for the conversion of the machinery; for, if the purchaser so annexes it to the land as to make it a part of the land, when he had no right to do so, it not being his property, the law deems him guilty of wrongfully connecting it.

In conclusion, I would strengthen "Manufacturer's" contract by inserting this clause: "It is hereby further agreed that said machinery shall at all times be and remain personal chattels until the full performance of the conditions hereinbefore stated, and until title thereto has vested in said second party in accordance with the terms of this agreement."

THE FALL OF PRICES IN 1884.

In nearly all the comments upon the condition of business during the year that has now passed, a considerable shrinkage in the amount of business done is noticed without proper allowance for the fact that the change in values received or paid has been mainly due to a change in prices. Thus, the report for Chicago, which has been prepared with great care yearly since 1868, shows an aggregate of transactions during the past year of \$356,000,000 in farm products, \$369,000,000 in wholesale trades and \$294,000,000 in manufactures, in all \$933,000,000 after allowance for duplications, and this aggregate is about 11 per cent less than the aggregate for 1883, which was \$1,050,000,000. Doubtless if corresponding statements could be prepared for other chief centres of trade, about the same proportionate decrease in values would appear. But it does not follow that there has been any decrease whatever in the quantities of articles marketed by producers or purchased by consumers. On the contrary, there is every reason to believe that the volume of trade during the past year, measured in quantities transferred, was nearly or quite as great as in the previous year.

The decline in prices during the past year has been very large. Toward the close of 1883 prices had fallen considerably, and the range at the beginning of 1884 was not at the time regarded as likely to be maintained. A general advance was expected in most branches of business. Soon after the year opened an advance was attempted, but without much success. Until May, however, the course of prices was without defined tendency, influenced from week to week by the speculative movements which an enormous accumulation of idle funds at the chief centers strongly stimulated. The collapse in May, though at first confined mainly to the market for securities, was speedily followed by a decline in the prices of nearly all products, which continued with scarcely an interruption, until the middle of December. The slight advance since the latter date has not materially changed the general average. It is apparent, therefore, that had the same quantity of wheat and corn, cotton and provisions, iron and coal and textile fabrics been sold by producers and bought by consumers as in the year 1883, the volume of business, measured in dollars and cents, would have been smaller during the past year by the difference in average prices.—Ex.

THE Pennsylvania Railroad Company is making experiments at its shops at Altoona, Pa., with the electric lights for use in its passenger cars. The experiment has progressed so favorably that it is believed that within a few months the electric lights will be introduced into all the passenger cars on its various lines.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1½ cents for each additional word. Cash with order. Three consecutive insertions will be given for the price of two.

SITUATION WANTED.

A situation to learn the millers trade. Am 23 years old. Best of reference given as to character. Address, FRANK VAN VLEET, Tyrone, Schuylers county, N. Y. 1018

SITUATION WANTED.

By a first-class miller to take charge of a custom and merchant mill, or will rent small custom mill. New York State preferred. For further particulars address MILLER, Box 72, Bradford, N. Y. 1415

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1½ cents per word for one insertion, or 4 cents per word for four insertions. No order taken for less than 50 cents for one insertion, or \$1 for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

WANTED.

Traveling salesman, must be a man of experience. Address, GILBERT & JONES, Jamestown, N. Y. 1814

WANTED.

A good custom mill to run on shares. Satisfaction guaranteed. Good reference given if required. Address at once, P. O. BOX 44, Lycippus, Westmoreland county, Pa. 14

YOU CAN BUY THESE CHEAP.

Three McCully Corn Cob Crushers. The above articles are brand new, in perfect condition, just as they left the factories, and will be sold very cheap for cash. Address S. 30, care THE MILLING WORLD, Buffalo, N. Y. 11

FLOURING AND SAW MILL PROPERTY FOR SALE.

I have two water power flouring mills and two saw mills for sale. All in No. 1 order, and in fine locations for grain, lumber and markets. Persons wanting such property will do well to investigate these. Address, J. H. CRAIG, Baldwin, Jackson county, Iowa. 1114

I HAVE

650 Elevator Cups, 4½x3½.
700 Elevator Cups, 4x3.
For which I have no use, and will sell cheap. They were made by W. P. Myer, of Indianapolis, Ind., and are entirely new. If you want a bargain write me. Address, J. S. K., care THE MILLING WORLD, Buffalo, N. Y. 11

FISKE'S BOLTING REGULATORS

Keep the bolting cloth clean in all kinds of weather and in handling all kinds of stock. Increases the bolting capacity from 25 to 50 per cent., and prevents making specky flour. No shafting, belting or gearing required. Any one can attach it. I have a few of these devices which I will sell cheap. They are brand new. Send for description and price. Address MILL-WRIGHT, care THE MILLING WORLD, Buffalo, N. Y. 11

PARTNER WANTED.

To remove the machinery of a new three-run mill to a site in a splendid wheat country in northwest Nebraska, with a view to adding new process machinery and elevator. The water power is completed, supplied by springs and not subjected to floods. Mill can be built near railroad track, with the Black Hills and the Northwest for a market. A splendid chance for a man of ordinary means. Address, A. R., care of MILLING WORLD. 18



HOW DOES THIS SUIT?

"Cooch's Bridge, Del., Aug. 25, '84.
"Messrs. Thompson & Campbell,
"Philadelphia, Pa.
"Gentlemen: Your machine was sent here against an —, on condition that we should keep the best, and we tried each machine, and are frank to say that if your machine cost us \$500 and the other was offered us as a present we should take yours, as we cannot find a fault with it. The above machine has a capacity of 50 bushels per hour."
We think best not to publish name, but it will be given upon application. Address, THOMPSON & CAMPBELL, Philadelphia, Pa.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order. CASE MANUFACTURING CO., Columbus, Ohio. Office and Factory, 5th Street, north of Naughton.



PUBLISHED EVERY THURSDAY BY
THE AMERICAN INDUSTRY PRESS
 (LIMITED.)

OFFICES, LEWIS BLOCK, SWAN STREET,
 BUFFALO, N. Y.

G. B. DOUGLAS, - Managing Editor.
 THOS. McFAUL, - General Agent.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.80 Per Year, in advance; can be remitted by Postal order, registered letter, or New York Exchange. If currency is enclosed in unregistered letter, it must be at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance. Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Card of Rates sent promptly on application. Orders for new advertisements should reach this office on Tuesday morning, to insure insertion in the week's issue. Changes for current advertisements should be sent so as to reach this office Saturdays.

EDITOR'S ANNOUNCEMENT.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with any manufacturing or mill furnishing business. Its editorial opinions cannot and will not be influenced by a bestowal or refusal of patronage. It has nothing for sale, but its space to advertisers and itself to subscribers.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

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OUR CLUBBING LIST.

NOTE—You can save money by availing yourself of the following offers. You can please every member of your family by accepting one or more of the following offers. To save money, and at the same time make the family happy, ought to be the main object of every married man's life. See how you can do this.

Take these for Yourself.

THE MILLING WORLD, per year.....	\$1.50
WITH	
The Builder and Woodworker.....	(\$1.00 per year) 2.00
American Architect, weekly.....	6.00 " " 6.50
American Architect, monthly.....	1.75 " " 2.75
American Machinist.....	4.50 " " 5.50
Mechanical Engineer.....	2.00 " " 3.00
American Agriculturist.....	1.50 " " 2.50
The Country Gentleman.....	2.50 " " 3.50

Take these for your Family.

THE MILLING WORLD, per year.....	\$1.50
WITH	
Harper's Magazine.....	(\$4.00 per year) 4.50
Harper's Weekly.....	4.00 " " 4.70
Harper's Bazar.....	4.00 " " 4.70
The Century.....	4.00 " " 4.50
Frank Leslie's Illus. Newspaper.....	4.00 " " 4.50
Frank Leslie's Popular Monthly.....	2.50 " " 3.50

Take these for your Children.

THE MILLING WORLD, per year.....	\$1.50
WITH	
St. Nicholas.....	(\$3.00 per year) 4.00
Harper's Young People.....	2.00 " " 3.00

Readers of "The Milling World" will confer a favor upon the publishers, and derive material benefit themselves, by mentioning this paper when opening correspondence with advertisers. Drop us a postal card when you have written to an advertiser, give us his name, and then we will put you in the way of getting the benefit. Don't forget this.

THE loss by fire to the millers of Great Britain during 1884 is estimated as nearly \$850,000.

THE Philadelphia Commercial Exchange predicts that the present year will be one of the heaviest export years in the history of that city. According to the annual report the receipts of all kinds of grain for 1884 were about 3,000,000 bushels less, and the exports 2,000,000 bushels smaller than those of the preceding year.

THE iron industry is generally accepted as the criterion of the business throughout

the country; starting from these premises the different industries must have experienced a decided improvement since the beginning of the year for forty iron establishments, closed prior to that time, have again resumed operations.

THE United States have not grown poorer during 1884 in spite of the commercial depression, if the value of exports and imports is accepted as a criterion. According to statistics the exports for the twelve months ending December 31, 1884, were \$749,303,802. The value of the imported merchandise during the same period amounted to \$629,227,730. This leaves the sum of \$120,076,072 to the credit of Uncle Sam on the balance sheet of the past year.

THE Iowa millers' meeting in Des Moines on January 21, was not well attended; it is thought that the severe cold weather made many of the members prefer their warm homes to railroad traveling and hotel fare. The report presented at the meeting about the Iowa flour exhibits at New Orleans, stated that the milling industry of the state was represented by three hundred and twenty-one sacks of flour from two hundred and eighty different mills located in ninety-one counties. The officers elected for the year are: J. J. Snouffer, President; D. B. Knight, Vice-President; J. S. Lord, Secretary and Treasurer; E. H. Brooks, C. M. Voss and Robert Nicholas, Executive Committee.

THE citizens of New York City have formed a Protective Association to fight the gas monopolies. Comparison showed that although the gas was stated to be cheaper in price than before, the gas bills were in reality higher while the gas itself was of poorer quality. After due consideration it was resolved that legislative measures be requested by the appointment of a committee of investigation to inquire into the relations of the lighting companies to the public, and into the costs, charges and character of the supply. If we remember right, THE MILLING WORLD published some time last year, a similar action on the part of the municipality of the City of Paris, but either the action never went farther than the paper it was written on, or else the results of the investigations made have been carefully kept from the public; one as bad as the other. We most earnestly hope that the New York people will not stop half way, but publish broadcast their results and then give the public for once a true insight into the proportions of income and expenses of gas companies. If the question receives a satisfactory settlement in the Empire City, other cities may be induced to follow the example, and institute similar investigations with results very beneficial to the majority of the inhabitants.

THE New York State Forestry Commission filed its report to the legislature on Jan. 24, and it is to be hoped in the interest of all consumers of water power, that the report will not be buried under the weight of other less important measures at the hands of our law-makers, but that some action will be taken speedily in the spirit of the recommendations embodied in the report. It tells us that in the Adirondack forests thousands and thousands of acres are burned annually, and unless something can be done to prevent this destruction, the forests will soon be exterminated. How the many important water courses which have their origin in these forests would fare under such circumstances can be imagined, when we recall the constantly increasing number of cases of annually recurring devastations by overflow of rivers in winter and spring, and the equal number of cases of low water during the summer. The commissioners also recommend the passage

of a law to prohibit the cutting of the trees on lands on which the taxes are overdue, and also that the owners of woodlands should have more authority than now, to allow them to prevent the fires and cutting and killing of trees by trespassers, who should be promptly punished by law. Of course our hopes to see any effective measures taken are not very sanguine, but a constant agitation of the subject will serve the good purpose of calling attention to the danger which threatens our available waterpowers as well as our navigable watercourses by an indiscriminate destruction of the forests; and some good can be expected from this in the course of time.

THERE is certainly no lack of prospective granaries to provide the necessary breadstuffs to the inhabitants of our globe at some future time. According to all present indications America will drop out of this business first, because her population increases faster than that of any other country, and her breadstuffs will soon be consumed at home, leaving no surplus whatever for exports. The increasing numbers of Europeans will then have to fall back on East India and Australia for their supply, and it will undoubtedly take some few generations at least before these granaries will be inadequate to the constantly increasing demand. And after all these have been exhausted, there will be the "dark continent" to come into eminence as the great provider of food to all civilized nations. If all the reports recently published in Europe are true, the Congo valley will be the final granary of the world and a goodly number of years will have to pass before nations will be forced to look around for additional food exporting countries. And after all these lands are under cultivation and all continents well populated and nowhere new producing countries to be discovered? As a curiosity it is perhaps worth while to take a glimpse into the future and imagine such conditions, as will certainly come to pass, if we are allowed to estimate future occurrences by those that are past. Will this whole earth ever be in a condition like, for instance, France is to-day; almost, but not altogether capable of providing for the wants of her inhabitants? France is the best example in this respect on account of the problem it presents to us in point of population. While all other countries have increased the number of their inhabitants at a rapid rate, France has done so very slowly and the comparatively small increase in these numbers has been the cause of many remarks. This we may suppose will be the fate of all nations in the course of ages, the numbers of inhabitants will slowly adjust themselves to the area which sustains them. Of course that time is so far distant that we can well ignore it, but the ultimate solution of the question of supply and demand will be found in that direction.

THE National Board of Trade held its annual meeting in Washington, D. C., during the latter part of last week, with a full number of representatives from the various sections of the country. After organization the salient points of the business on hand were thoroughly discussed, and a series of resolutions, as expressions of the opinion of the board, were adopted, and will be transmitted to those by whose influence the recommendations can become incorporated among the laws of the country. A resolution to urge upon Congress the necessity for the improvement of the navigation of Columbia river was unanimously adopted. In regard to the National Bank Act it was resolved to memorialize Congress to amend the statutes relating to National Banks in such a manner as to make the section which prohibits the certification of checks where no funds are on deposit to meet the same, more effective by rigidly enforcing the pen-

alty for the violation of this law. The question of the silver dollar was not viewed in so harmonious a light, and the opinions were very much divided, causing a lively discussion, and the proposition and rejection of various amendments to a resolution offered by the New York Chamber of Commerce which was finally adopted, calling for a suspension of the coinage of the standard silver dollars, as its continuation threatens a permanent depression of our national standard of value. The establishment by Congress of a department of commerce was warmly endorsed, and measures to remove the unjust stigma attached to American pork in Europe, were heartily recommended. After an animated discussion, the Board decided in favor of a reciprocity treaty with Canada. A resolution favoring government postal telegraphy was adopted after it was understood that this motion did not cover any attempt to make the government purchase existing telegraph lines. Among numerous other recommendations and resolutions was one in favor of removing the tax upon alcohol used in arts and manufactures; coast defences; changing the president's term of office from four to six years, and others. So far, so good. To recommend certain actions and to adopt resolutions to that effect is very congenial and pleasant work; how much actual good this display of talent will result in remains to be seen in the future.

IMPORTANT TO ADVERTISERS.

Manufacturers of, and dealers in, milling machinery and supplies have, during the past six or seven years, expended money almost lavishly for purposes of advertising, and so busy have most of them been kept that it has been almost impossible to give sufficient attention to the subject of advertising to really discover where their expenditures were judiciously made and where they have been in a measure money literally thrown away. Conditions now have so materially changed, that the prudent advertiser will weigh the force of every argument put forth to secure his patronage, and more closely than ever before will he watch the results accruing from his expenditures in this line. THE MILLING WORLD has, for some months, recognized the fact that its many patrons would look to it to inaugurate some means by which their interests should not in any degree be overlooked or neglected, during the present depression, and we have, therefore, given the subject most serious consideration, with the result that we are now in a position to assure the entire mill-furnishing trade that from a financial standpoint THE MILLING WORLD is prepared to give more for the money expended with it than any other milling journal in the world. This assertion is very broad and entirely unequivocal. As we are prepared to convince every advertiser of its truthfulness, it might be well to correspond with us before exhausting the sum set apart for advertising purposes.

WILL some of our milling friends who own and operate full burr stone mills, send us a complete line of samples, including samples of the wheat they are milling? Please attach your name, post office, county and state, to all samples sent, and after a time we will write you a letter, promising, however, that under no circumstances, will your samples be shown to anyone outside of our office.

ESTABLISHED 1856.

EUREKA GRAIN CLEANING MACHINERY | GENUINE DUFOUR BOLTING CLOTH**OVER 18,000 MACHINES IN USE.**

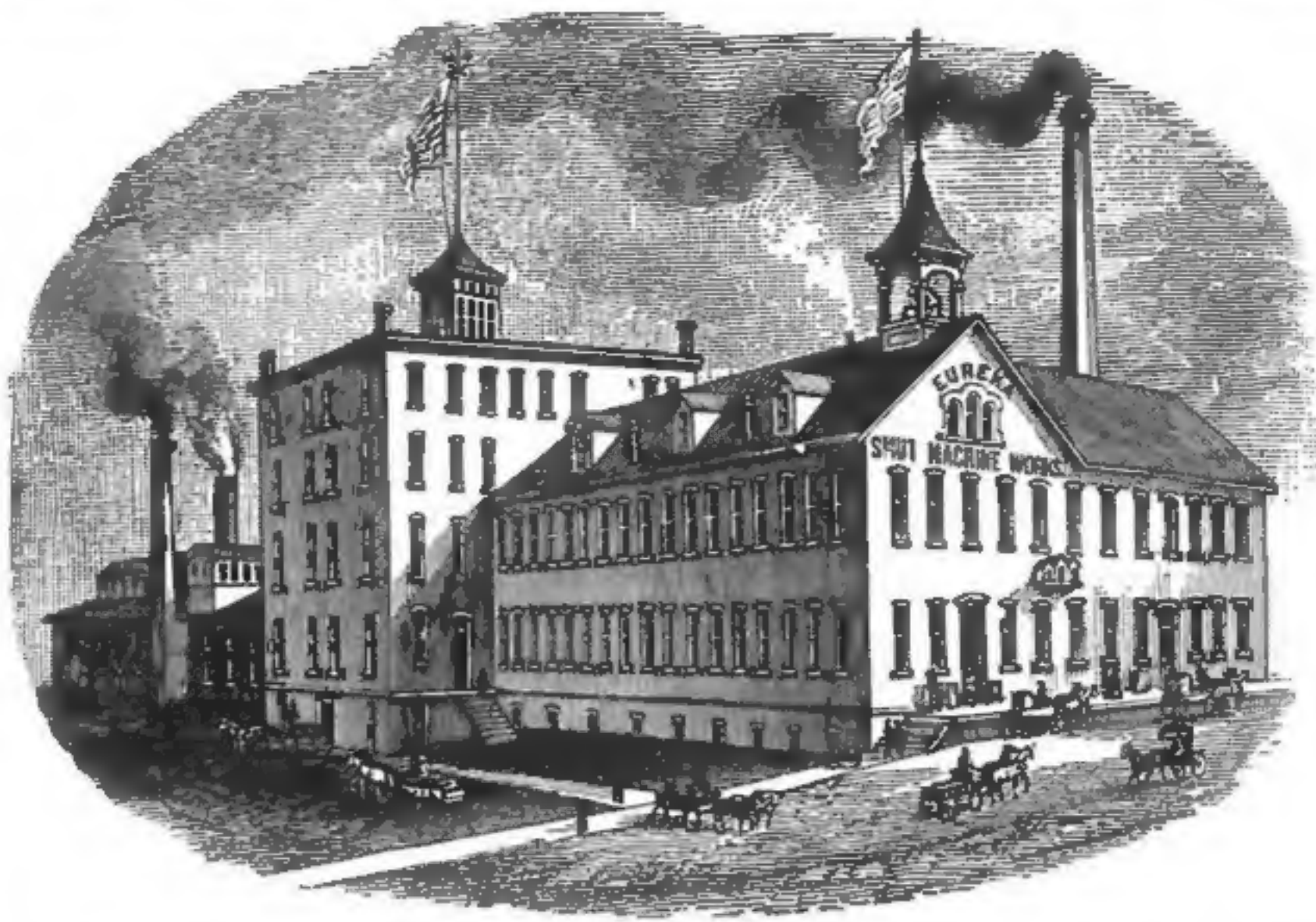
OUR LINE COMPRISES

The Eureka Separator,
The Eureka Smutter and Separator,
Eureka Brush Finisher,
The Eureka Magnetic Automatic Separator,
Silver Creek Flour Packer.

Our establishment is the oldest, the largest and most perfectly equipped of its class in the world, and our machinery is known and used in every country where wheat is made into flour.

HOWES & EWELL,
SILVER CREEK, N. Y.

European Warehouse and Office: 16 Mark Lane, London, E. C. Gen. Agency for Australian Colonies and New Zealand. Thos. Tyson, Melbourne, Victoria.



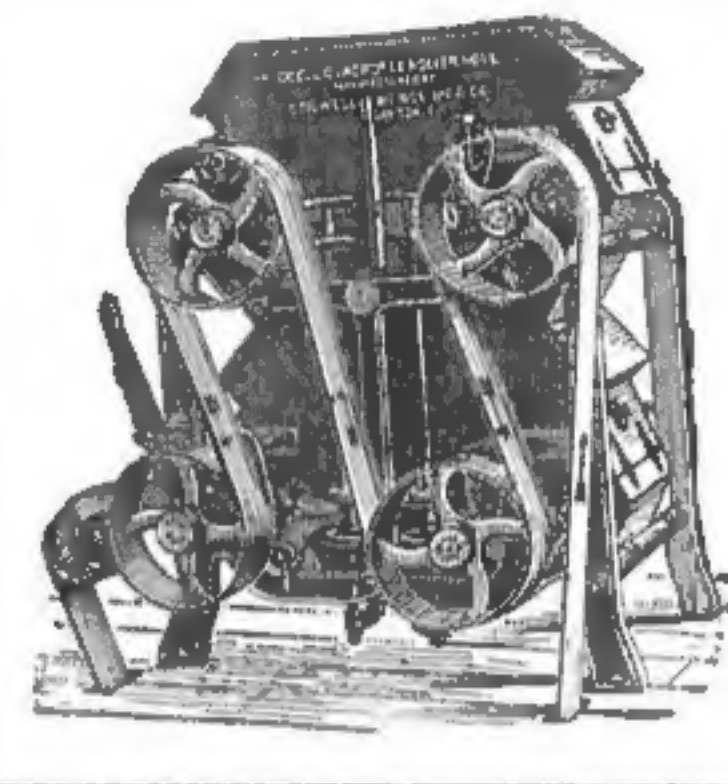
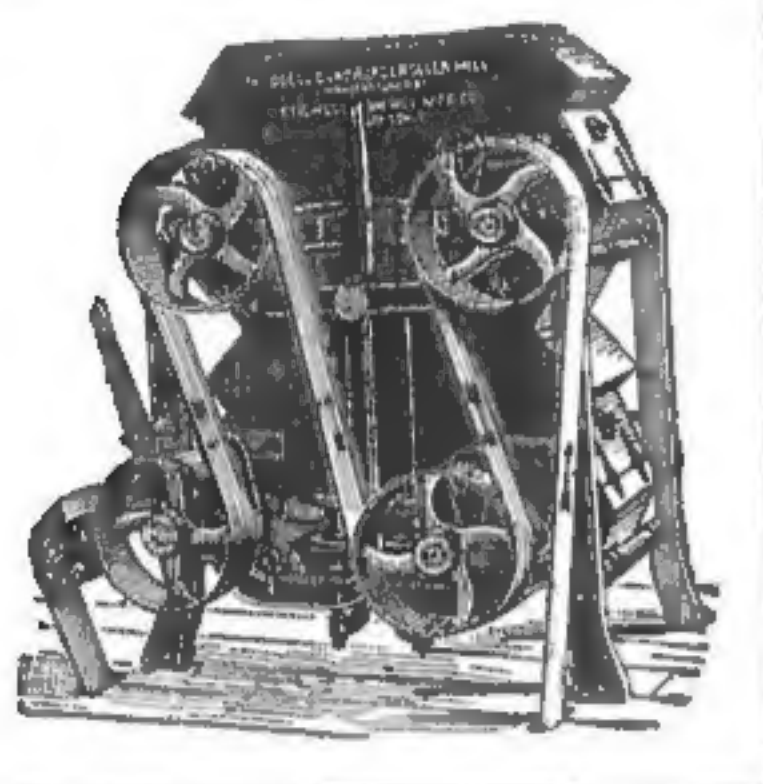
We handle this justly celebrated cloth in large quantities, and can fill all orders upon receipt. For such as may prefer a cheaper grade, we offer our

ANCHOR BRAND BOLTING CLOTH.

Guaranteeing it to be equal in every particular to any other cloth on the market, except the Dufour. We have handled it for years, have sold thousands of yards of it, and know it will fully sustain our representations.

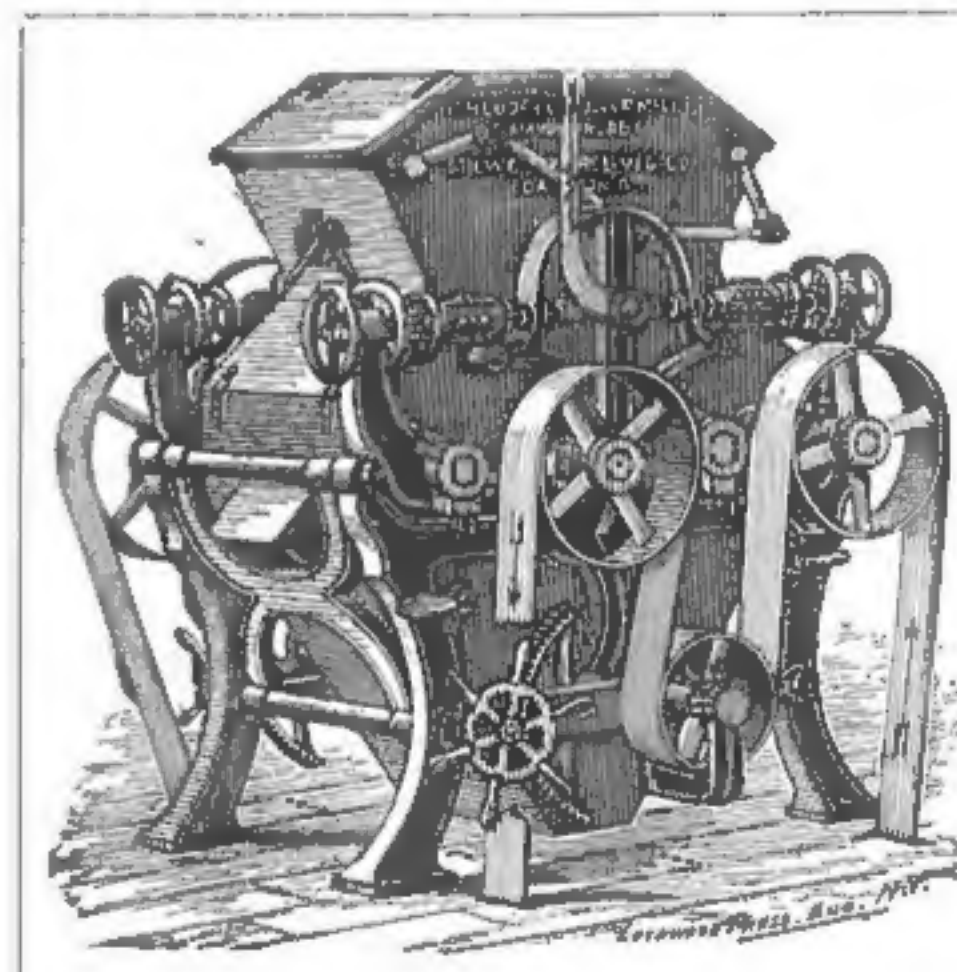
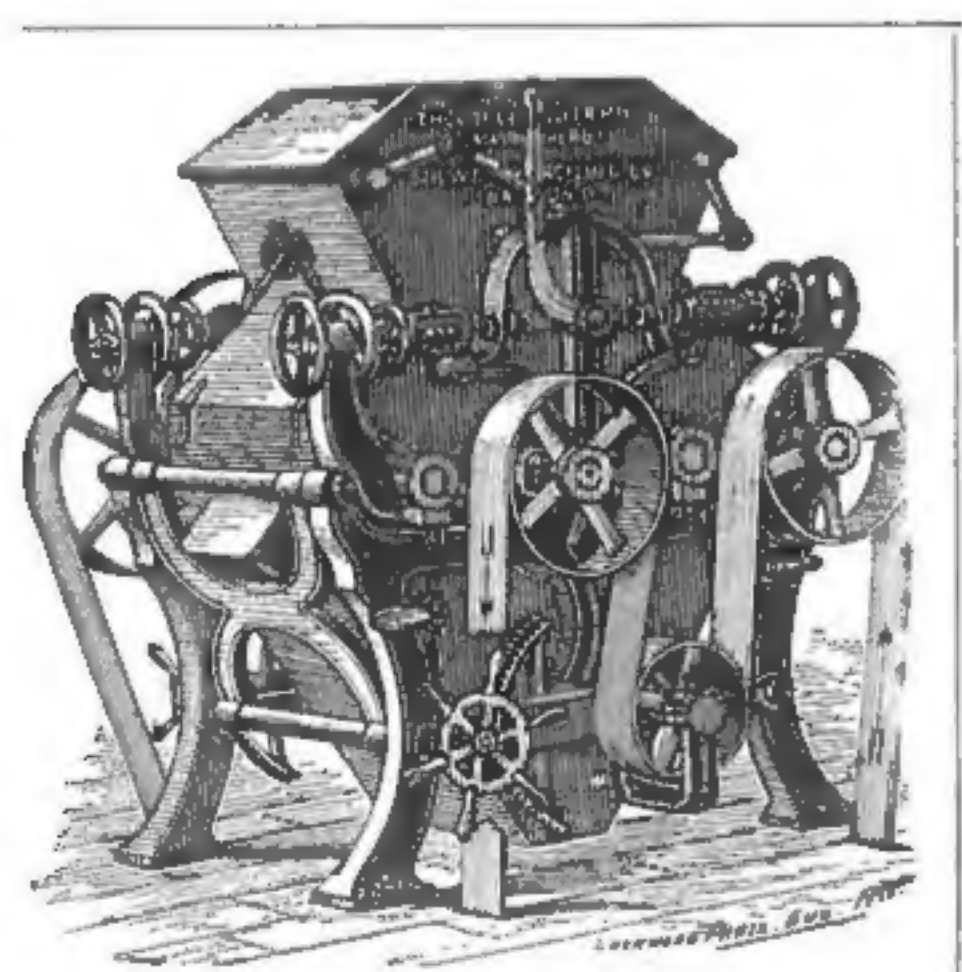
Send For Samples of Cloth, Our Style of Making Up, and Prices.

HOWES & EWELL,
SILVER CREEK, N. Y.



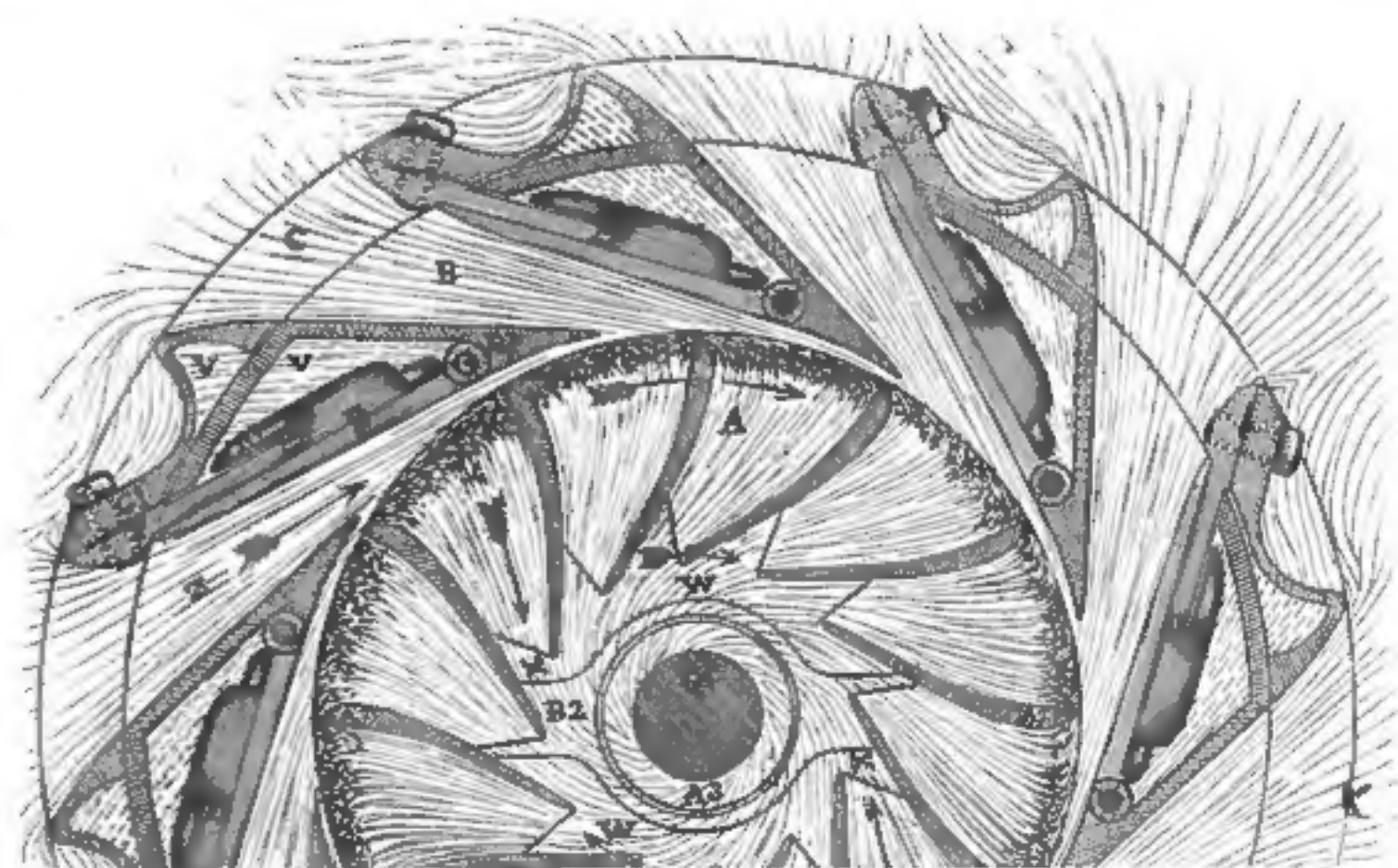
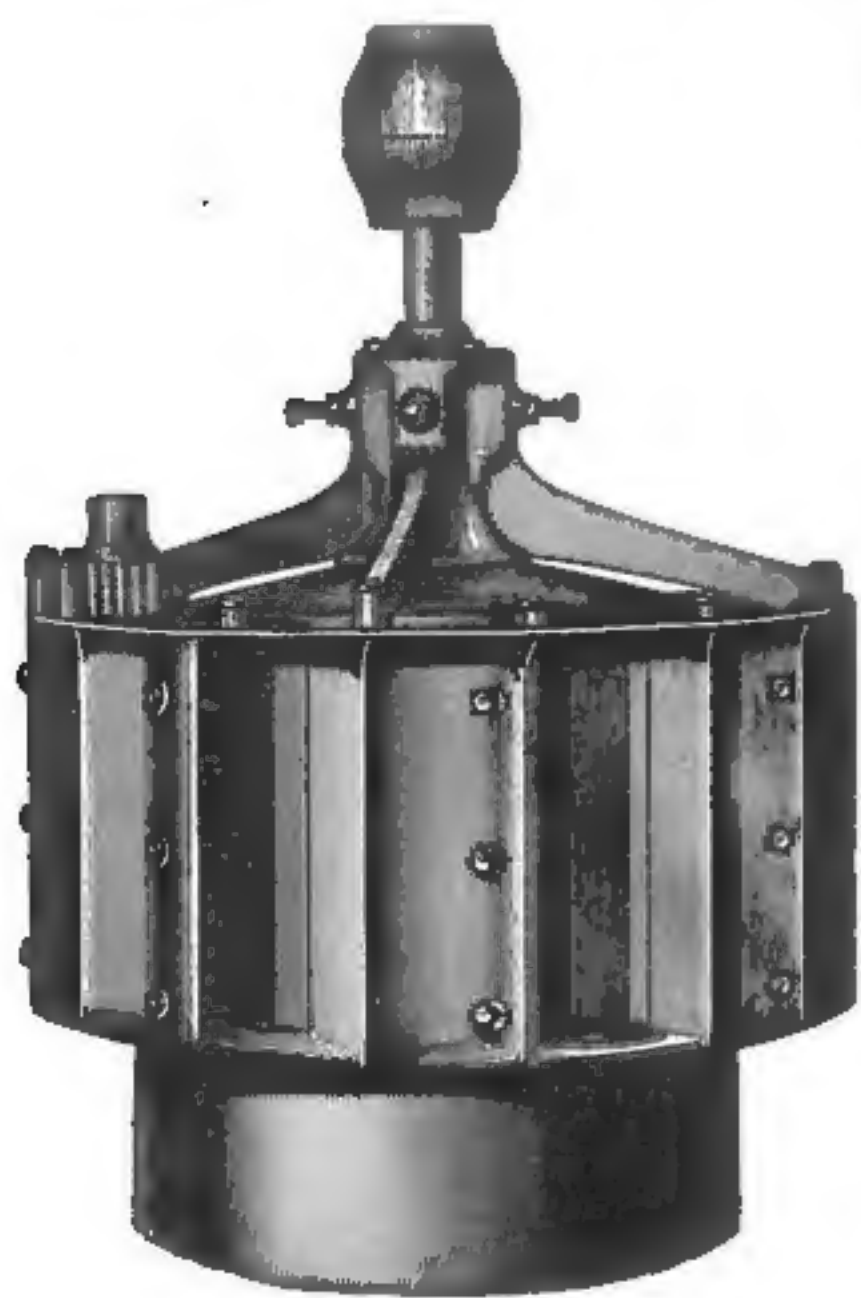
CUT THIS OUT and send, or bring it to us, and after you have given us your order for one or more Odell Roller Mills, **WE WILL PAY YOU**, simply for the trouble you have taken to cut it out and bring, or send it to us, the sum, in hard cash, or bank-note, of **ONE DOLLAR**. This coupon is transferable to anyone, but will only be honored upon the conditions named, and at the counting room of

Stilwell & Bierce Mfg. Co.
DAYTON, OHIO.

**THE KEISER -TURBINE-**

Has a combination of more good points than found in any other wheel. Yields the greatest power to be had from the water used, at all stages of gate and has a self-cleaning easy-working balanced gate that closes water tight.

WOLF & HAMAKER, CHAMBERSBURG, PA.



GATES FULL OPEN—WHEEL AT WORK.

This figure presents the most distinguishing feature of our Keiser Turbine, the long taper chutes, so clearly. The fine lines indicate currents of water which enter the chutes, at C with comparatively little motion, increases towards B as the chutes become more contracted and reaches its highest velocity in passing their narrowest ends at the periphery of the wheel, striking the buckets on their extreme ends where it is most effective and collides with the water between them, causing the wheel to revolve in the direction of the arrows near A.



DUST-COLLECTOR.

Letters Patent No. 311,295, dated January 27, 1885, to William Cook, of Columbus, Indiana, assignor of one-half to Frederick Donner, of same place. This invention relates to dust-collectors, and is an improvement in dust-collectors substantially as that shown in Letters Patent granted to Faustin Prinz on the 20th day of February, 1883, Nos. 272,473 and 272,474. In the machine described in said Letters Patent the dust-collector consists of radially-arranged sections forming a drum or "balloon," the radial walls of which are of cloth adapted to permit the passage of air, which by its passage is strained or freed from its dust. The center of the balloon is open, and the purified air is discharged therefrom. The balloon revolves with a step-by-step motion, each step being equal to the inner peripheral width of the section. Thus the sections are brought in succession under a chamber or tube extending longitudinally of the balloon in the center, and having a slotted bottom and an air-tight top, with suitable packing, so that as a section is arrested under the chamber it is isolated from the other sections of the balloon, and is in communication with the slotted chamber. This chamber, being in communication with the atmosphere, admits external air to the section thus isolated from the other parts of the balloon. The outside air is therefore drawn through the tube and reversely through the isolated section, and thence back through the sections not isolated to the open center of the balloon, and thence to the suction-fan. By this construction a reverse current is induced through the isolated section, which current is designed to dislodge the dust adhering to the cloth, and to aid the jar of the blow, in causing it to drop to the receptacle below and leave the cloth clean; but the current thus induced from the atmosphere through the isolated sections, and thence through the non-isolated sections, is, the inventor of the present improvement asserts, necessarily feeble by reason of its narrow and crooked and extended way, and by reason, also, of its enforced passage through an amount of cloth double that through which the main current passes. The impurities in the dust-laden air are often of a fibrous or hairy nature, and become so firmly attached to and matted in the cloth that neither the jarring nor the induced reverse current can remove them. The machine above referred to is therefore, this inventor says, imperfect in its action, for the reason that the cloth is not effectually cleaned and this imperfection it is the object of this invention to remove; and to this end this invention consists in devices for forcing a positive reverse current through the slotted air-chamber and the cloth of the section or sections of the balloon isolated therewith, while the main current is continued through the other sections in the ordinary manner. This positive reverse current is obtained by leading a pipe from the case of the inducing fan to the slotted air-chamber over the isolated section or sections. As the reader will note this is simply an alleged improvement upon the well-known Prinz dust collector. It may perform the office for which it is designed, but without the consent of the manufacturers of the Prinz machine it is difficult to see how it can be utilized.

ILLINOIS GRAIN INSPECTION.

The system of inspecting grain by authority of the state has come to be recognized as far superior to the old system in vogue, when inspectors were appointed by

interested parties. The Illinois legislature passed a statute in 1871 covering the present system, and with the exception of a few slight modifications it has not been changed. Under the present system the chief inspector of grain is appointed by the governor of the state. The chief inspector recommends all the experts, inspectors and clerical force necessary to the department, but before they can obtain their position the board of railway commissioners must also endorse their recommendation. The board of railway commissioners are appointed by the governor, subject to confirmation by the state senate. Under the present law the railroads have no option in the delivery of grain, but are compelled to deliver at whichever warehouse they may be ordered to do. Expert inspectors examine the quality of the grain on the car, by comparison and various processes known to experts, and in case it is wheat it is weighed, and a certificate is issued as a guaranty of the grade to which the grain is qualified. The car is "carded" on the way to the elevator, where other inspectors examine the grain to see whether they agree with the inspection on the track. If there is a disagreement between the results of the experts the shipment is held out and reported, and entries are made upon the books giving the reasons for fixing the grade to which it has been assigned. The rules of the department prevent the plugging of cars, and any cars which have been plugged are invariably graded at the lowest grade. The house inspector examines all shipments of grain and returns a certificate to the shipping office to show in what condition the grain was when received. If it is found to be out of the condition it should be in according to the order for shipment it is switched off the track and reported at the office from which it is shipped. All grain intended for the elevator is inspected in the yards and forwarded.

If the parties to whom the grain is assigned are not satisfied with the original inspection, they can order the cars held out and summon the appeals committee, which consists of three members of the board of trade, whose judgment in the matter is final. All grain which comes to Chicago is inspected, and if not suitable for warehouse grade it is sold on the track. In fact, a great quantity of grain is inspected and sold on the track which never goes into the elevator. As an evidence of the popularity of the method of inspection, all grain which passes through Chicago is inspected in order to have a judgment of the grade, although it may be shipped immediately to other points. Grain which is stored in the elevator loses its identity, but the owner is given a receipt, for which a like amount of the same grade is delivered. These certificates are negotiable, and are accepted as good as gold for what they call for. The superiority of the present system over the old one can be seen at a glance when it is considered that under the old system inspectors were appointed by interested parties, and as a consequence there was great prejudice in the grading. Under the present system the inspectors give bonds to cover any damages that may result from false inspection. The experts are all men who have occupied a large part of their career at the business, and they have variously served from eight to twenty-two years. Whenever a complaint has been made to the appeals committee that the grade of grain had been placed too low, the committee have seldom found cause for raising the grade. The number of appeals in which the committee differ from the original inspection, Mr. John W. Parker, of the chief inspector's staff, states will not equal one-third of one per cent. of the number of appeals made, and the entire number of complaints are comparatively few.

The rules governing the inspection of grain are adopted by the railway commissioners, and cannot be changed without twenty days' notice. They are never arbitrarily made, but the interest of the trade in all its bearings, and all parties in any way interested, are consulted in the formation of rules. This is of itself an immense advantage to shippers, buyers or sellers, as it prevents the possibility of manipulation or changing the grades of grain in the warehouses, as was frequently the case under the old system. The greatest difficulty to the inspectors arises from what are termed "line" cars which contain grain neither good enough for a higher nor bad enough for a lower grade. Between two distinct grades it is not hard to distinguish, but it is very difficult to decide upon the quality of these grades which appear on an uncertain line half way between. All of the pressure from receivers comes from this source and the judgment of the inspectors is often challenged, although they are nearly always proved correct by the committee on appeals. The trouble of inspecting is augmented to some extent by dealers, both city and country endeavoring to manufacture grades to meet requirements of the rules. This is sometimes attempted by mixing two or more grades, but is unsuccessful.

The present state system of inspection appears to have been pre-eminently satisfactory to all parties interested in legitimate trade. It was bitterly opposed and a strong effort made to repeal the law in 1874 and again in 1877, but both attempts were overwhelmingly defeated, and since that time it has strengthened in every way, until the Chicago standard of grades has been accepted by the whole world. The state warehouse registrar is appointed by the board of railway commissioners, and his office is to keep a record of all grain of all kinds that goes into or out of the Chicago elevators. Through this official, it can be ascertained each morning the exact amount of each kind of grain that was in the city the previous day, and he is required to publish a weekly report, giving figures of a similar kind. All warehouse receipts are required to be canceled and registered by him before they will become marketable.—Ex.

WHEAT STATISTICS OF 1884.

Mr. J. A. Dodge, the statistician of the agricultural department, has made his final statement as to crops and prices for 1884. The total wheat crop of the country is given at 512,763,900 bushels. This corresponds very well with the estimate made by the department before harvest, which, if we mistake not, was 500,000,000 bushels. California leads off with 44,320,000 bushels; Minnesota follows with 41,307,000; Ohio comes next with 41,186,000; Kansas is credited with 34,390,000; Indiana, 33,745,000; Illinois, 32,374,000; Iowa, 31,270,000; Michigan, 29,772,000; Nebraska, 28,325,000; Missouri, 27,500,000; Dakota, 22,330,000; Pennsylvania, 20,820,000; Wisconsin, 20,083,000; Oregon, 15,462,000; Kentucky, 13,425,000; New York, 12,729,000, and smaller quantities are reported for every state and territory, excepting Rhode Island, Florida and Louisiana. It is instructive to compare these statistics of quantity with the corresponding statistics of value. Thus the 12,729,000 bushels of New York's crop was worth \$10,819,650, while Dakota's 22,330,000 bushels of much better wheat was worth only \$10,271,800, and Nebraska's 28,325,000 bushels was estimated at \$11,896,500. Ohio's 41,186,000 bushels was worth \$30,889,500, while Minnesota's 41,307,000 is set down at \$20,653,500. The Kansas crop of 34,990,000 bushels was valued at \$15,745,500, while the Pennsylvania product, 20,820,000 bushels was worth \$17,905,200. These differences in price represent the cost of transportation. The

railroads charged more for hauling the crop of Kansas to market than the total amount which the people of Kansas received for the crop. The same is true of Nebraska and of Dakota. Notwithstanding the alleged cheap rates on the "long haul," the western states have this past season had to give half their crop to get the other half hauled to market. The average farm price of wheat for the whole country was 65 cents as against 91 cents for 1883. These figures represent the December price. The average in Nebraska is given as 42 cents, 45 in Kansas, 46 in Dakota, 50 in Minnesota, 55 in Iowa, 62 in Missouri, 63 in Illinois, 67 in Indiana, 74 in Michigan, 75 in Ohio; 80 Virginia, 83 in Maryland, 85 in New York, 86 in Pennsylvania, and upward of \$1 in New England. These prices are, of course, considerably higher than those of September and October. The 1883 price was 70 cents in Nebraska against 42 in 1884; in Kansas, 78 against 45; in Missouri, 88 against 62; in Iowa 80 against 55. The railroad companies have held up transportation rates in the face of this unprecedented decline in prices. The local price in 1884 was a much smaller percentage of the Chicago price than in 1883. In other words, the farmer has had to bear the whole burden of low prices.

CALIFORNIA WHEAT INTERESTS.

The rainfall of California at late mail dates had reached 12 inches this season, which exceeds corresponding time last year. "This fact," says the San Francisco Commercial Herald, "encourages farmers to part freely with their wheat, feeling confident that another fruitful year is before them. Since our last reference several thousand tons of choice white wheat have been purchased at \$1 40 per cental, but since then the market has re-acted somewhat. Exports of breadstuffs during the past month would have been materially larger, if continuous rains had not effectually stopped the work of unloading and loading ships for nearly two weeks. These rains have been of enormous benefit to California, and new life seems to have been infused into all classes of business. It appears that everybody feels more hopeful of the future, and believes that better times may be looked forward to. A private grain circular says: We call attention to the fact that shipments of wheat have been materially larger, while flour exports have been smaller for the past six months, than for the corresponding period of 1883, which when taken in connection with the largely increased milling facilities in California, tend to show the shipments of flour have been considered more risky than shipments of wheat. This, doubtless, was owing to excessive stocks of California and Oregon flour held in Liverpool and other ports in Great Britain at the beginning of the present campaign, and which excessive stock could only be disposed of by acceptances of ruinously low prices."

ECCENTRIC BOOK-KEEPING.

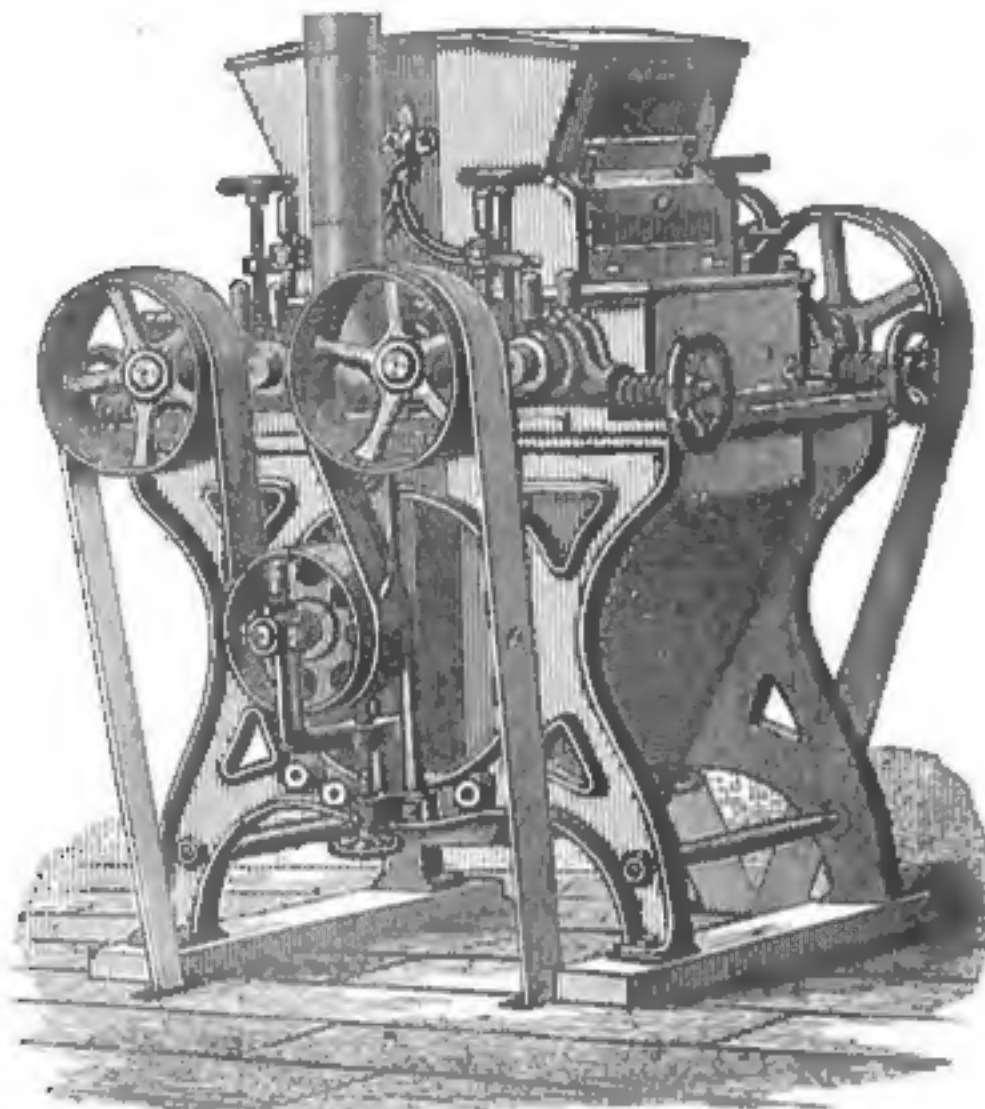
Many amusing anecdotes were told of Judge Weaver's early life, when he was a merchant and trading with the Indians. In purchasing furs, as the story goes, his hand, placed on the scale opposite the fur, weighed half a pound, and his foot a pound. His accounts were kept on boards in chalk. One of his neighbors, Mr. Harter, in settling an account found himself charged with a cheese. Being a farmer, and making not only cheese for his own table, but cheese he was in the habit of selling at the store, he asked an explanation. Judge Weaver, priding himself on his accuracy, was impatient with all who disputed his accounts. But Mr. Harter appealed to his reason and common sense to show how improbable, if not impossible, it was that he who made

cheese for sale should have been a purchaser. This perplexed the Judge, who, after thinking and talking for a long time, was unwilling, under the circumstances, to press his neighbor to pay for a cheese, and equally unwilling to admit an inaccuracy in his bookkeeping. The question was finally laid over till next day, in the hope that the Judge might be able to verify the integrity of his books, or boards. On the following day, when Mr. Harter appeared, the Judge met him in jubilant spirits, exclaiming, "It is all right; I remember all about it now." "But," said his neighbor, "you don't mean to say that I bought the cheese?" "No, no," said the merchant, "it was not a cheese, but a grindstone, and I forgot to put a hole in

it." In Judge Weaver's mode of bookkeeping, a circular chalk mark represented a cheese, while the same mark, with a dot in the centre, converted it into a grindstone.

THE Erie Canal is a constant subject of discussion in the commercial circles of New York State, and it will undoubtedly remain so until some effective measures are taken which will secure its greater efficiency. At present the boatmen are active and are asking for an enlargement of the canal, not to the dimensions of a ship canal, but so that the present boats can be used when propelled by steam power. In addition to this, the oft-repeated cry of "too high terminal charges at Buffalo and New York" is again heard.

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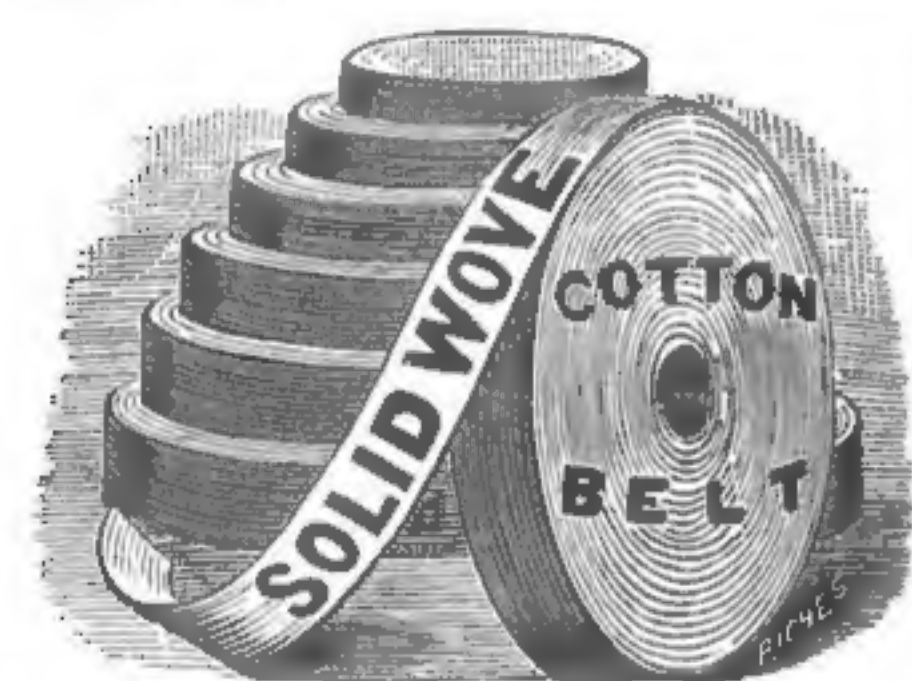
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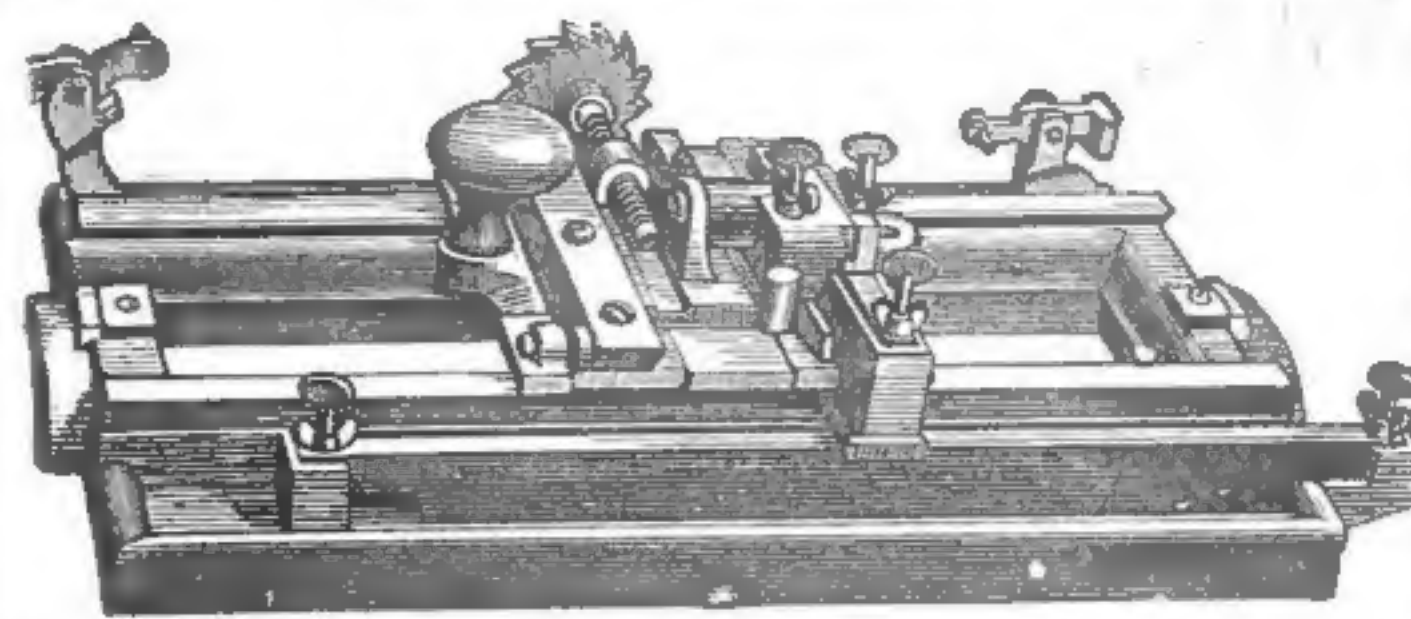
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No. 1, to face and crack	\$25.00
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Will do as good work, and is more easily adjusted than any other machine. Sent on 80 days' trial. Address for circulars, containing full information.

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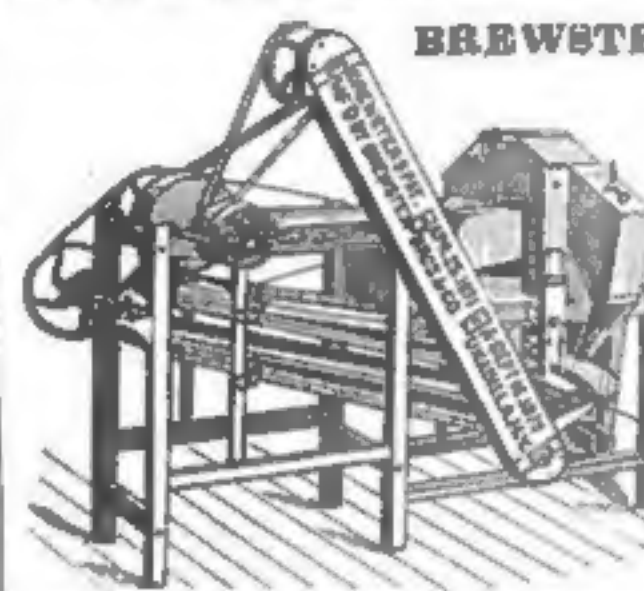
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Eight inches long, 2 1/4 inches wide, 1 1/4 inches thick. Received the highest and only Award given to Polishers at the Millers' Exhibition, Cincinnati, Ohio, June, 1880. For facing down high places on the buhr, this tool has no equal, and can be done much better and in one-sixth the time than with the mill pick. It is much larger, cuts better, can be used on either face or furrow, can be used until the corundum is entirely worn out on one side and then turned on the other side. Has over four times the amount of corundum and when the corundum is worn out can be replaced in the handle at a small cost. Sent by express, \$3.50. Satisfaction guaranteed, or money refunded. Address



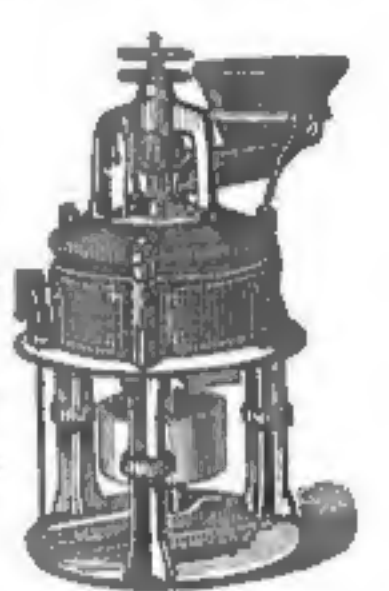
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PURE, WHITE SHARP FLOUR
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The only reliable, practical and durable machine
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Milwaukee, Wis., Nov. 29, 1884.

The Geo. T. Smith Middlings Purifier Co.,

Jackson, Michigan.

Gentlemen: Enclosed please find draft for two Smith Reels. We have now run the Reels 60 days, and are well pleased with same, and must say that we are surprised by the amount of work they do. We are bolting at the rate of 10 barrels per hour, which nearly all passes through upper Reel, and leaves but very little for the lower Reel to do.

Yours truly,

C. MANEGOLD & SON.



MOTIVE POWER AS AN AID TO EXTINGUISH FIRES.

[From Pappenheim's Mueller Zeitung.]

WHILE almost everything is perfected more and more, it seems strange that one of the most important aids to fight fire in large establishments has been neglected. We refer to the available motive power. Establishments three or four stories high, necessitating a large number of pulleys and belts for the transmission of motive power, are generally supplied from one large engine in the basement or lower floor. If fire breaks out in any part of the building it is natural that the first impulse will be to stop the machinery, for fast moving belts create a strong current of air and are in this way promoters of fire; in addition to this the noise they make is generally so loud that it seriously interferes with the intelligent management of the available help to fight the fire. It is but seldom the case that separate divisions of the motive plant can be stopped without stopping the engine, and in this way we shut off our most useful aid. Hundreds of men cannot supply as abundant a quantity of water as can be done by the engine, which has been stopped just at a moment when its power, if available, could be of the most benefit. Of course, a pump is necessary for that purpose, which could be operated by the engine whenever needed. A few hints in this direction will perhaps prove useful.

Many of our larger manufacturing establishments have large pumps connected with the engine; in that case it is only necessary to see that the connections are made of such a kind that the pump can be kept in operation until the last and after every other part of the machinery has come to a stand still. Such a pump must have the necessary quantity of pipes to lead water to every part of the building. Of course, there are often difficulties connected with such arrangement, but it will ultimately be found more profitable to make the necessary alterations in order to have this most needed improvement. If a connection between the engine and the pump is impracticable, a separate steam pump will answer the purpose as well. Were none of these available, a centrifugal pump can at least bring the necessary water. If of 60mm. diameter such a pump is capable of lifting 400 liters per minute to the height of 60 feet; a pump of 100mm. has triple the above capacity. Such a pump connected by friction gearing with the main engine will always be ready and yet entail no expense on account of belts and power when not in use.

Centrifugal pumps of large dimensions soon increase the pressure of the water to from 11 to 5 atmospheres, and the force can be applied directly by means of a varying number of hose. Such pumps use two or three times as much power as well built fire engines, but in such cases as we have under discussion, that item would be of no account whatever. These few hints may be of use to the owners of such establishments which are not possessed of these very useful and economical appliances for the prevention of large fires.

IMPECUNIOUS RAILROAD COMPANIES.

The New York Railroad Commissioners do not entertain the opinion that unlimited competition is the life of trade. The war of rates brought on by the New York, West Shore & Buffalo Railway, serves as a text for the following sermon: "There is lack of wisdom on the State in permitting any 13 men who can secure subscriptions of \$1,000

per mile, with ten per cent. thereof paid in, to build a railroad anywhere they see fit without an expression from the State of the public exigency of the same. A railroad cannot be built without the State delegating to its promoters the highest power it possesses over property—the right of eminent domain—the right to take private property for public uses. The State itself never exercises this sovereign power except in cases of public necessity. Why should it delegate it to any 13 men to be exercised for mere private gain, frequently at the expense of vested rights and grave public interests? When the State has undertaken the control of railroads by the creation of supervisory boards, and has determined to exact the highest standard of service at reasonable rates of freight and fare, it would certainly seem as if a corresponding obligation rested upon it to protect existing railroads from useless and disastrous competition by unnecessary new ones. A road struggling along with disastrous competition with an unnecessary parallel road pleads poverty and financial inability to comply with every recommendation of the board, looking to better maintenance or more convenient operation. Even those measures absolutely necessary for the safety of travel are often neglected, and when recommended by the board strenuously resisted upon the ground that the road is not even earning fixed charges. The objection is unanswerable when made to recommendations for more convenient or agreeable maintenance, but is not accepted by the board as a reason for not complying with recommendations to insure the safety of travel."

* * In 1870 not a ton of coal was mined in Georgia; in 1880 the census reports 150,000 tons. In Alabama the coal product of 1880 was 840,000 tons, against 10,000 tons in 1870. The total coal output of the states of Alabama, Georgia, Arkansas, Kentucky, Tennessee and West Virginia rose from 900,000 tons in 1870 to 3,700,000 in 1880. In 1870 there were but 40,000 tons of iron ore mined in Alabama, Georgia, Tennessee, Virginia and West Virginia, while in 1880 there were 575,000 tons, an increase of more than 1,200 per cent. Great as these gains were, it is claimed they have been far exceeded in the years that have elapsed since the census was taken. The most extraordinary development of mineral resources has taken place in Alabama. Her total iron production was 191,000 tons in 1880, 350,000 tons in 1881, 450,000 in 1882, 580,000 in 1883, and 650,000 in 1884. In 1883 1,500,000 tons of coal were mined in the state, an increase of 1,500 per cent. in twelve years. Arkansas abounds in minerals, especially coal, lead and silver; coal, iron, copper, slate and marbles are abundant in Georgia; Kentucky has rich deposits of coal and iron ores; North Carolina claims to have every variety of mineral substance discovered anywhere else, besides a number peculiar to itself. South Carolina has a source of great wealth in her phosphates, besides a variety of iron, silver, gold and copper deposits; Tennessee has coal fields covering 5,400 square miles or 3,264,000 acres, with a total average production of 750,000 tons, with iron and copper in abundance, and many other valuable minerals; Texas has rich iron, coal and copper beds, while the mineral wealth of the Virginias is enormous.

* * A well-known and competent mechanic states that he obtains the best results on his swiftest moving journals with cast iron on cast iron, and says he is willing also to depend on an emery ground fit. Another, equally competent, says that for exceptionally high speeds, as 4,000 per minute, cast iron and cast iron are inadmissible, but he employs untempered steel

and hard babbitt-metal, well hammered into the box and then bored out. He tried hardened steel boxes and soft steel spindle for that speed, and found that the boxes cut so rapidly as soon to destroy the spindle as well as the boxes. For heavy weights and large journals there appears to be nothing that gives better satisfaction than good babbitt boxes hammered solidly. Cast-iron boxes with wrought-iron or steel spindles have done well where the weight and speed are not excessive. All soft metal bearings, as babbitt or composition, ought to be protected from grinding influences of dust, but cast iron, if kept well oiled, soon forms a glaze that is almost indestructible. In all cases the journal should give space enough for a film of oil, especially for high speeds, under which it may become heated and slightly expanded. Many journals and boxes are injured by binding, the consequence of a too finical fit.

* * Pampas grass must now be put with the showy canton-flannel hangings as things beautiful in their place, but it requires caution in placing either of them near a light, or in striking a match too near their vicinity. An example of recent conflagration by pampas grass is reported by a Philadelphian who had received a large packet of these showy and feathery grasses from California in a Christmas box. The grasses were laid on the table under a shaded lamp, whose flame was covered by a chimney. In moving them about a sort of light dust or down is released from the plumes, and so, in the most unexpected way, the grasses caught fire, when they were simply lifted from the table. The floating cottony substance from the pampas must have settled

over the flame of the lamp, or in some way communicated fire to the whole parcel. Cottony dust is quite as combustible as flour dust is known to be in Minneapolis mills, and as the pampas grass is quite a popular ornament, it is well to be a little careful in handling its downy stems after lamp-light.

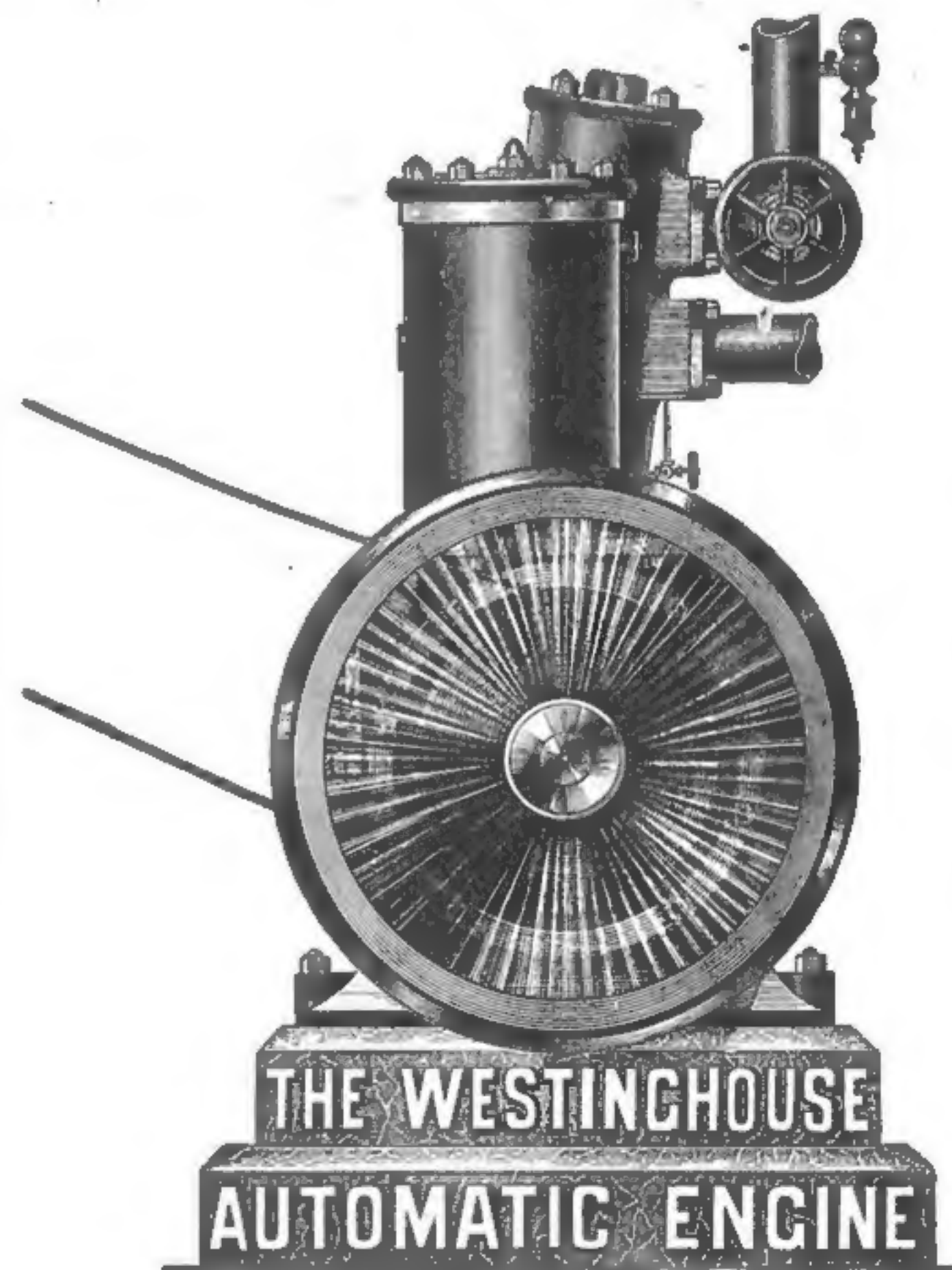
* * An examination of the series of water marks, set in 1750 all around the Swedish coasts, in order to settle a dispute between the Swedish astronomer Celsius and some Germans, as to whether the level of the Baltic has been rising or sinking, shows, says "Nature," that both parties were right. The gauges have been inspected regularly at short intervals and the result of the observations have just been made public by the Swedish Academy of Science. It appears from them that during the past 134 years the northern part of Sweden has risen about 7 feet, the rate of elevation gradually declining southwards, being only about 1 foot at the Naze and nothing at Bornholm, which remains at the same level as in the middle of the last century. The general average result would be that the Swedish coast has risen about 56 inches during the past 184 years.

* * The superiority of the comparatively inexpensive American dredging machines was demonstrated in the construction of the Welland Canal, where the heavy costly Scotch machines were found of but little use. The same lesson it seems, is being learned in the construction of the Panama Canal.

* * There are 2,800,000,000 copies of daily, weekly and monthly journals published annually in America, against 7,800,000,000 copies in Europe.

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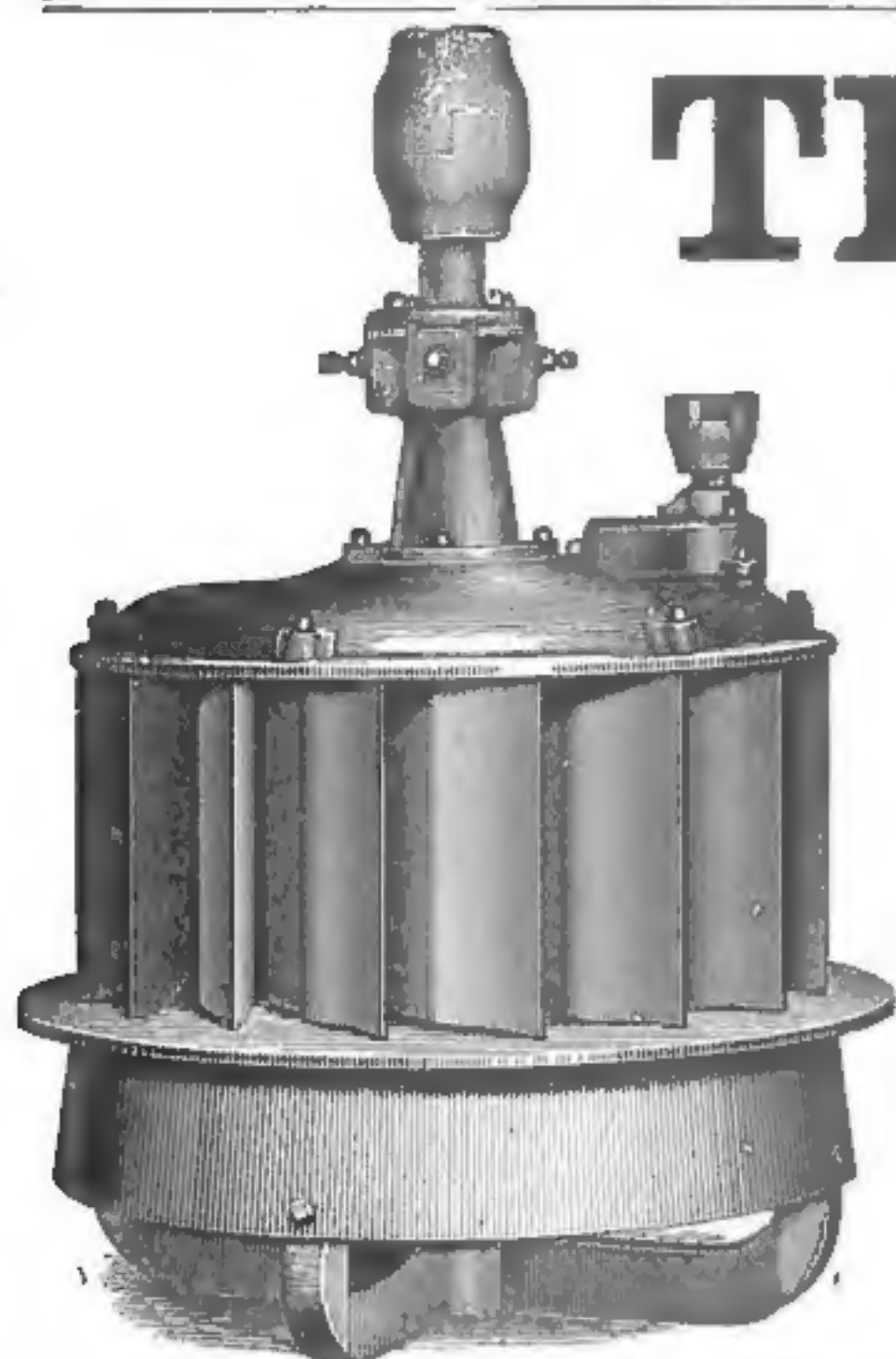
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Size Wheel.	Head in Ft.	Horse Power.	Per Cent Useful Effect
15-inch,	18.06	30.17	.8932
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25-inch,	17.90	68.62	.8584
30-inch,	11.65	52.54	.8676

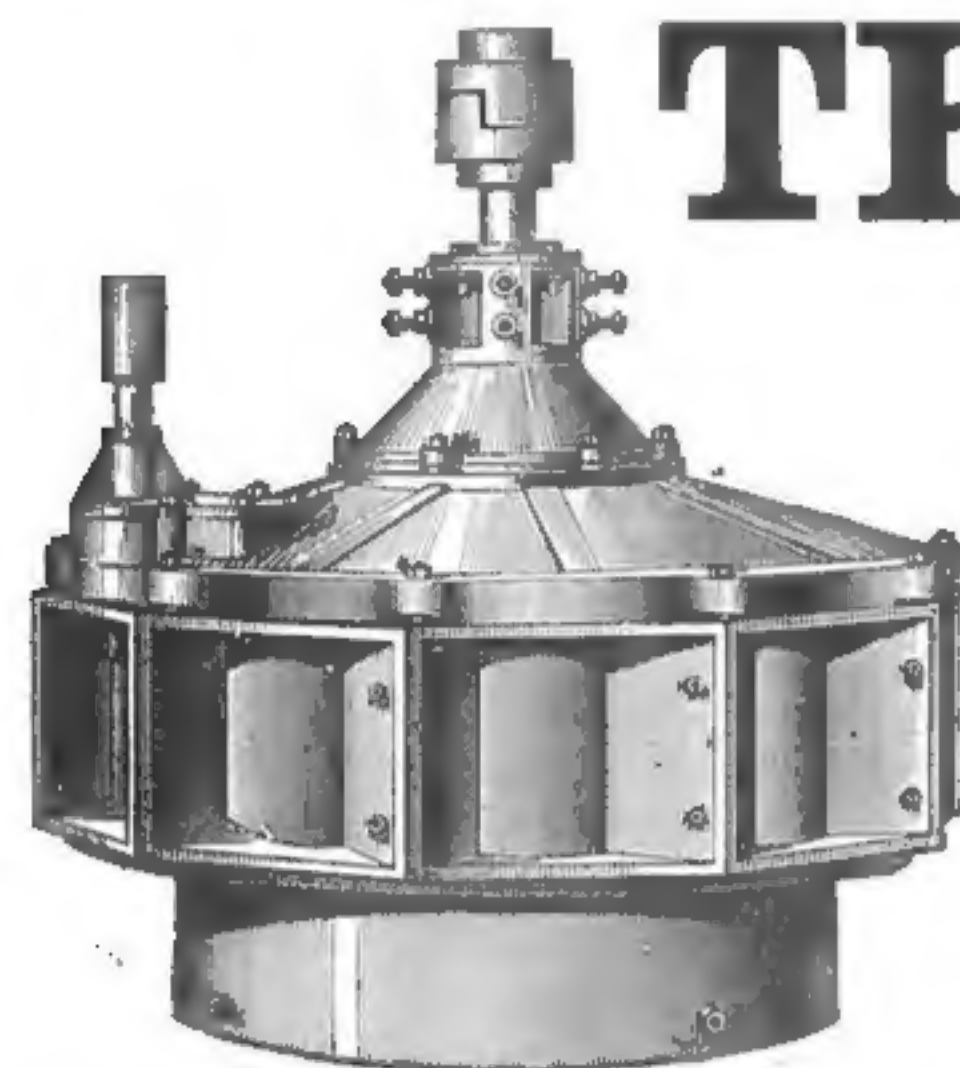
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PERCENTAGE OF EFFICIENCY.

	Full Gate.	¾ Water.	½ Water.	¼ Water.
24 Inch Wheel.....	.8438	.8416	.8202	.8002
28 Inch Wheel.....	.8206	.7910	.7700	.7008
24 Inch Wheel.....	.8078	.7878	.7275	.6796
30 Inch Wheel.....	.8000	.8011	.7814	.6850

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RELIABLE
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This wheel is acknowledged one of the best on the market. Has valuable improvements in the construction which is commanding the attention of buyers. Send for catalogue and price list. **T. B. MERCER, WEST CHESTER, PA. CHESTER CO., PA.**

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ALCOTT'S IMPROVED TURBINE WATER WHEEL.

This Wheel gives high results, and is acknowledged the best, most practical and efficient Turbine made. For Simplicity, Durability, and Tightness of Gate it has no equal.

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The Best Conveyor Flights

and Cogs. The Best ELEVATOR CUPS



A. H. FAIRCHILD & SON, North Bloomfield, Ont. Co., N. Y.



Notes from the Trade.

We learn that an elevator will be erected in Elysian, Minn., early next summer. It will be ready for the fall crop.

A company with a capital of \$50,000 has been incorporated at Louisville, Ky., for the manufacture of cornmeal and hominy.

The Alexandria (Dak.) flouring mill burns tons of the flax straw every week. It makes a rousing fire and is cheaper than coal.

The Case Mfg. Co., Columbus, Ohio, have an order from Albert Fike, Oliversburg, Ohio, for rolls, purifiers, belting, reels, etc.

The Case Mfg. Co., Columbus, Ohio, have an order from Kerfoot Bros., Des Moines, Iowa, for a patent automatic feed for Allis rolls.

The Case Mfg. Co., Columbus, Ohio, have an order from Levi Bishop, North Webster, Ind., for breaks, rolls, scalpers, belting, reels, centrifugals, etc.

Bathman, Fry & Co., Benton, Ohio, are making some changes in their mill, and adding two pairs of rolls with patent automatic feed, from the Case Mfg. Co., Columbus, Ohio.

The Case Mfg. Co., Columbus, Ohio, have an order from Barney & Kilby, Sandusky, O., for a Case improved centrifugal reel, to be shipped to Mitchell & Fry, Oak Harlem, Ohio.

The total elevator capacity of Minnesota is stated at 25,795,000 bushels. Nearly half of this is at Duluth and Minneapolis; the rest is scattered through the farming towns in this state.

Castrel, Mullan & Co., Flint, Mich., have placed an order with the Case Mfg. Co., Columbus, O., for two pair rolls, with patent automatic feed to be shipped A. E. Atherton, Grand Blane, Mich.

The Case Mfg. Co., Columbus, Ohio, have secured the contract of Lane, Fuget & Lane, Tower Hill, Ill., for a full line of rolls, purifiers, scalpers, centrifugal reels, etc., for a complete gradual reduction mill on the Case system.

According to the report of the board of grain inspectors, Dakota's shipments of wheat through public elevators and warehouses amounted to 11,197,919 bushels. The total elevator capacity of the territory is placed at 6,000,000 bushels, and the total shipments by rail at 12,268,628 bushels.

The Wapello Flouring Mills, at Ottumwa, Iowa, owned by J. M. Lamme, burned Jan. 21. The loss is about total and will probably reach \$10,000; insured in the following companies: Queen, of Liverpool, \$1,000; Phoenix, of London, \$1,500; Northwestern National, \$1,000, and Hamburg-Bremen, \$800. The mill will probably be rebuilt in the early spring.

On Jan. 19 Pillsbury & Hulbert's elevator, at Georgetown, Dakota, burned to the ground. It contained 20,000 bushels of wheat, all of which is a total loss. The elevator was of 20,000 bushels capacity, inadequate to the needs of Georgetown, which is the oldest settled town in Clay county, and handles a large quantity of grain. It is believed that Pillsbury & Hulbert will build a large elevator the coming season.

It is said that of the numerous flouring mills in Minnesota, R. D. Hubbard & Co.'s stands at the head, the second largest in the state outside of the twin cities; operates sixty sets of rollers, five sets of stone, and has a daily capacity of 650 barrels. It is equipped with the best and most complete machinery, has every facility for shipping, and by reason of its favorable locality has its choice of the best grades of wheat in the market.

It is said that the bulk of the wheat bags used in San Francisco are received from Calcutta, only a small portion of the number required being taken from Dundee. 8,200,000 wheat bags, used in 1870 have gone on increasing until 1880, when there were over 34,000,000 used, at a cost of \$800,000. The consumption for the 11 years ending Dec. 31, 1880, at 174,205,700, cost \$4,150,000. The stock carried over from the present season will be from 15,000,000 to 16,000,000.

Col. D. P. Slaterry, of St. Louis, has been absent for several days examining and correcting the plans and specifications for the new elevator building. This elevator will have a gross capacity of 700,000 bushels, and a net capacity of 450,000 bushels, and will probably be the best arranged and most complete building of its kind in the world. As all elevators are arranged the full capacity can not be utilized, from the fact that single car-load lots have to be stored in separate

bins as well as different gradings of grain. The new structure will be supplied with a number of bins for single car-load lots, as well as with bins to hold 5,000 and 10,000 bushels.

At Tolono, Ill., January 30, the large elevator and flouring-mill owned by R. P. Moore & Son, was wholly destroyed by fire, which broke out about 7 o'clock and continued for over two hours. The building was situated near the junction of the Wabash and Illinois Central Roads, and the proprietors had been doing a large business for a number of years. The total loss, including building, grain and machinery, is estimated at about \$20,000. Considerable of the flour in the mill was saved, but nothing could check the fire, as it was well started when discovered. The mill was valued at about \$16,000 and was insured for \$8,000. The fire is thought to have originated in the boiler-room, but as yet nothing certain is known.

A peculiar case of wheat testing is made known by Mr. Groot emigration agent of the Northern Pacific. He sent samples of a fine appearing grain raised near Jamestown, Dakota, from a new Russian seed which yielded forty bushels to the acre. Two samples were sent to Minneapolis and a third was submitted in St. Paul. The three reports agreed in declaring the wheat worthless. The inspectors knew nothing whatever of the origin and character of the wheat, and that other inspections were being made, but each of the reports was the same. The grain was declared brittle, and below grade. In the bulk it bore such a resemblance to No. 1 hard that it might easily have sold for that grade to an unsuspecting buyer. It is purely an experimental wheat, and was so submitted for test. The unanimity of the inspectors can leave no doubt as to its true value.

At Montreal, Canada, the produce merchants, millers, and a syndicate of capitalists, among the latter being most of the directors of the Canadian Pacific railway, have filled up all the grain elevators throughout Manitoba, Ontario, and at Montreal with wheat, at a price ranging from 60 cents down, the price mentioned being the maximum. The bank of Montreal advanced \$2,000,000 on one syndicate, and other leading banks have followed suit. This turn has restored confidence in commercial circles there again. But the Dominion millers are again petitioning the Dominion government to raise the duty on American flour from fifty cents to \$1 per barrel. Notwithstanding a duty of 50 cents per barrel, 300,000 barrels of flour were imported from the United States last year, over 250,000 barrels of which were imported from the United States by the maritime provinces, which are making a strong protest against the duty being increased.

The Toronto Globe says of the recently formed syndicate for buying wheat at Port Arthur: "The syndicate which has fondly supposed by the Farmers' Union to be largely composed of European capitalists, is now said to be virtually the Canadian Pacific railway and its friends; and it is further alleged that the scale of prices for grades was invented simply to give the impression outside that the price of wheat in Manitoba and the Canadian Northwest was relatively high. The formation of a farmers' union is itself a significant fact, and the tone of all reports from the Canadian Northwest indicates that farmers are not satisfied with the existing facilities for disposing of their wheat. The establishing of boards of trades, or, as they would probably be called, corn exchanges, at Winnipeg and other important points, with an inspection system established by vote of a majority, representing all conflicting interests, and enforced by the competition among commission houses for the farmers' business, publicity of transactions, free competition for grain and its merits and a system of advances to within a fair margin from current values, would probably rescue the farmers of the Canadian Northwest from the clutches of syndicates."

The general outlook for next year's crops in the Northwest is excellent. In Minnesota the farmers had ample time for fall plowing and improved it, a larger area being prepared than usual, though the general feeling is against putting in so much wheat another season on account of the extremely low price of this grain. The acreage devoted to winter wheat is less than half that of last year. This, however, is mostly due to the circumstance that the experiments made last year with winter wheat in the prairie counties resulted in failures. The corn crop of this year having been excellent and the price continuing good, will lead to the planting of a much larger area next year. The disposition to engage more largely in stock growing and dairying is being more general everywhere. Dakota reports say: If the price now ruling for wheat should not improve before next seeding time there will at least be a check to the enormous increase of acreage that has been added annually to the wheat fields of Dakota for the last three years. There is also a wide-spread dissatisfaction among the farmers and wheat

growers, which is not confined to the territory but includes Minnesota, over the system and rules adopted by the elevator companies through which the wheat is compelled to find its way to market. The burden of low prices is borne by the farmer. Although it requires less money to move the crop, it costs as much to put it into market as when wheat was worth \$1.07 in Chicago the local price was 80 cents, or 75 per cent. of the Chicago price. The local price is now only 62 per cent. of the Chicago prices.

Papers were signed Jan. 20 for the lease of the Duluth and Western elevators at Duluth, to Geo. H. Christian, of Minneapolis, and the two houses will soon be receiving grain. An application which Mr. Christian made to the Board of Trade recently that the house be made regular was favorably considered by that body. There has been much trouble with these houses since their completion, applications that one of them be made regular having been rejected, and as a consequence they have been idle for a long time. Elevator D, a "hospital," with a capacity for 50,000 bushels was completed about a year ago, and has been busy with damaged wheat until lately. Elevator E, working capacity about 500,000 bushels, was practically completed last March, and since that time has received some 25,000 bushels, and has shipped as much. This shipment was in October, at which time the board refused to consider the receipts regular. Since that time it has been closed. Mr. Christian was at one time connected with the milling firm of Christian & Co., but he went out of that business some time ago. His lease of the plant is until August, 1888, and he will undoubtedly make the property pay. There can be no trouble about the receipts of the house, even should it be insecure, as he is abundantly able to back his warehouse receipts in case of damage. Some wheat of his own, now in other houses here, has already been ordered into his elevator E. The opening of these houses will add about 550,000 bushels to the capacity of Duluth warehouses. It is reported that Mr. Christian will still make his headquarters at Minneapolis, and appoint a resident manager for Duluth.

The Wabash Valley, says the New York Produce Exchange Reporter, in the State of Indiana is noted for the superior quality of its wheat, the high reputation established for it dates back more than two score years. It is deservedly popular, it possesses merits not found in wheat in any other section of the country, which is due to the peculiar chemical elements of its soil, and its geographical position has been regarded as favorable for the raising of most cereal crops. In 1864 the crop of winter wheat was equal to any ever raised in the experience of the oldest inhabitant, both in quality and quantity, and no State in the country excelled if they equaled that of Indiana. The reputation then formed for the wheat of that State has since been well maintained, though they have not always had the good fortune to secure from year to year bountiful and good crops, which of course has been due to strong atmospheric influences and not to any considerable change in the soil. The splendid flours coming from that State the past few years has induced us to inquire more particularly into the chemical elements of its soil, to its peculiar character the excellent sponging and bread-making qualities are due. A brand of flour made at Vincennes, Indiana, called "Lady Webster," has for years past attracted our attention. Two years ago it was a popular "Stone Straight," showing evidences of superior milling skill. Since then the proprietors have taken out all the old machinery, much of it very valuable, and supplied its place with new of the most approved and popular kinds now in use regardless of cost. Of the machinery now in their mill the George T. Smith middlings purifier and centrifugal reels are the most valuable and are regarded with great favor. To the radical change in the machinery the decided improvement in the flour is due, and we now find it one of the best and most popular brands that come to this market.

"All the oatmeal mills in the country are running slack just now," said a gentleman at Des Moines, Iowa, a few days since, "because this is what is considered the slow season of the year in the business. Just now the product is being run down as low as it is possible to do it. But it is not a bit more quiet in the trade than at this time last year. It has been reported in the papers that a combination has been formed to raise the prices. This is a mistake to some extent. The meeting which has been referred to was a meeting to organize for the same purposes as the other millers have organized, and also to equalize prices over the country. The process of equalization will not increase the price of meal at Des Moines, and may reduce the Ohio prices slightly, and also increase slightly at other points. Our mill has a good Western trade, and we are just now loading a car for the mountains. A car, in barrels, is worth about \$500. The manufacture is comparatively a new thing in this country. At the close

of the war a little Canada oatmeal was sold in the East. The Shoemakers, of Ohio, were the pioneers, and went into the manufacture heavily. Twelve years ago there was not an exclusive oat meal mill west of Ohio, and now they are everywhere, so the product has grown cheaper each year. The export to foreign countries has increased right along, but it is not very profitable, and I think is not pushed except when the home demand falls off or the production is found too heavy. Foreigners don't buy this or anything else as Americans do. If the price is a cent higher than usual they don't take it, while in this country if a man wants a package of meal he buys it at once without asking the price. We look for a fair business through the coming season. The stocks are nowhere very heavy, and the demand is increasing right along, as it ought to, for it is the finest food in the world for many people."

The report of the Dakota grain inspectors has been mailed to the governor. The document is a very elaborate one, and is a full report of the results of the labors of the Dakota grain commissioners for the past eight months, both in Dakota and the adjoining state of Minnesota. The total elevator capacity is 6,000,000 bushels. The total shipments through the public elevators and warehouses were 11,197,919 bushels, as follows: Pillsbury & Hurlbert, on St. Paul, Minneapolis and Manitoba, 3,550,858; Northern Pacific Elevator Company, on St. Paul, Minneapolis & Manitoba, 581,329; Northern Pacific Elevator Company, on Northern Pacific Road, 2,001,295; Pratt & Co., and others, on the line of the Chicago, Milwaukee and St. Paul, 2,388,712; George W. Vanduzen & Co., on line of Chicago & North-Western, 1,024,000; other purchasers on lines of the Chicago & North-Western, 1,490,822; on lines of the Chicago, St. Paul, Minneapolis & Omaha, 166,903; total, 11,197,919. Reeves and other buyers, including the Grandin Elevator Company, and individual shippers on the Manitoba Road, 1,070,709. Total shipments by railroad, 12,268,629. To the above add the large amount purchased by the flouring-mills direct from the farmer, amounting in the aggregate to 3,858,000, add also the seed wheat retained in the hands of the farmers, and the grand total is 18,126,628. After referring to the magnitude of the wheat interest in Dakota, the report states that the varieties of hard wheat, among which the Scottish "life" stands prominent, are nowhere produced in greater abundance or perfection than in Dakota and the valley of the Red River of the North. The conditions of soil and climate which there exist (the report says) tend to perfect the berry of the wheat probably to a greater degree than elsewhere, although it is found that splendid crops of hard Scotch life wheat, averaging fully as well as in the Red River Valley, are raised in other portions of the territory, notably as far south as Bon Homme County, and west on the Northern Pacific Railroad, as far as Bismarck.

A chemical investigation of the wheats of the country has been going on for two years in the laboratory of the Department of Agriculture, at Washington. Such results have been obtained that Mr. Clifford Richardson, the chemist, feels justified in giving publicity to them. From very elaborate tables showing the analysis of a great variety of wheats from all parts of the country these deductions are made. The main failing of American wheats is their deficiency in albuminoids. The highest percentages of albuminoids found by Prof. Richardson was 17.15 in a Minnesota wheat. Russian wheats have been shown to contain 29.56 per cent. The albuminoids are regarded as the most valuable part of the grain. Prof. Richardson says it is difficult to explain for what reason American wheats contain so much less water than is given in the foreign averages, but he has never seen a sample which contained as much as the average given by the chemist Wolff for German wheat. He concludes that the hotter and drier summers of America may afford the explanation. A comparison of the samples analyzed shows that the wheat of the Eastern States is the poorest raised, falling below the average in albuminoids, in ash and in size. The improvement is gradual and regular until the Pacific slope is reached, where there is a decided falling off in quality. The best wheat grows between the Mississippi and the mountains. It has a higher average in oil, albuminoids and ash. The Oregon and California wheats, although showing large and handsome grains, contain a comparatively low amount of albuminoids. After crossing the Mississippi the averages show that in Missouri and Kansas wheats are deficient in nitrogen, while Texas produces a grain richer in nitrogen, but injured by too small weight per 100. Minnesota has a much larger grain, not quite so well supplied with nitrogen. It is Colorado which leads in the production of a large grain containing a large amount of albuminoids. That State, Prof. Richardson says, shows what the possibilities are of raising a perfect wheat.

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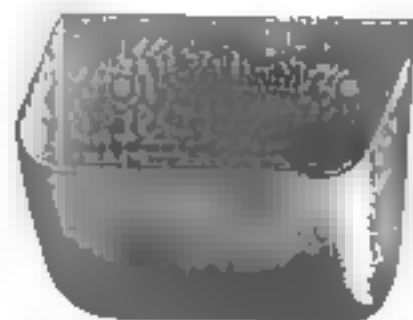
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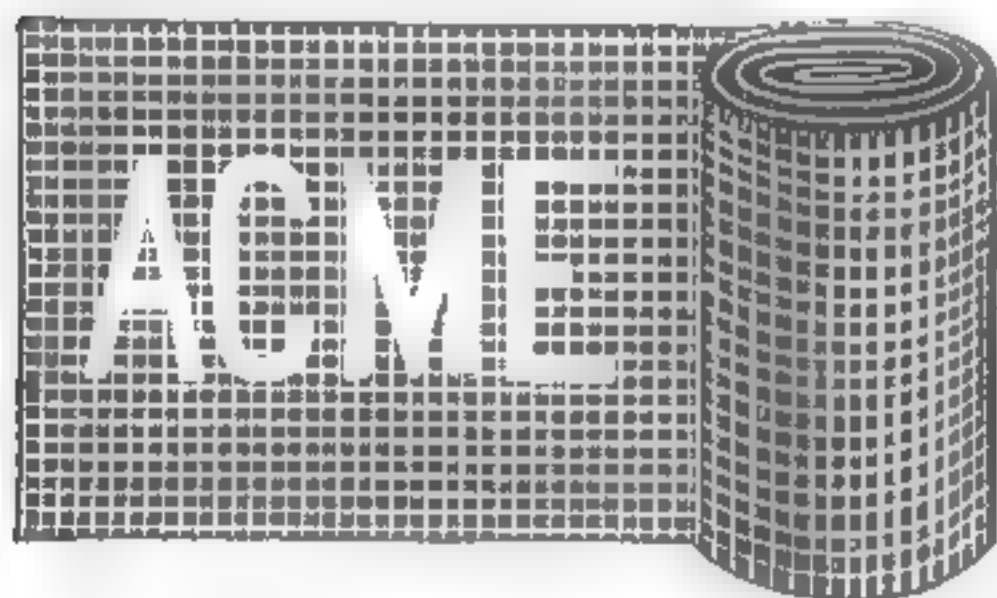


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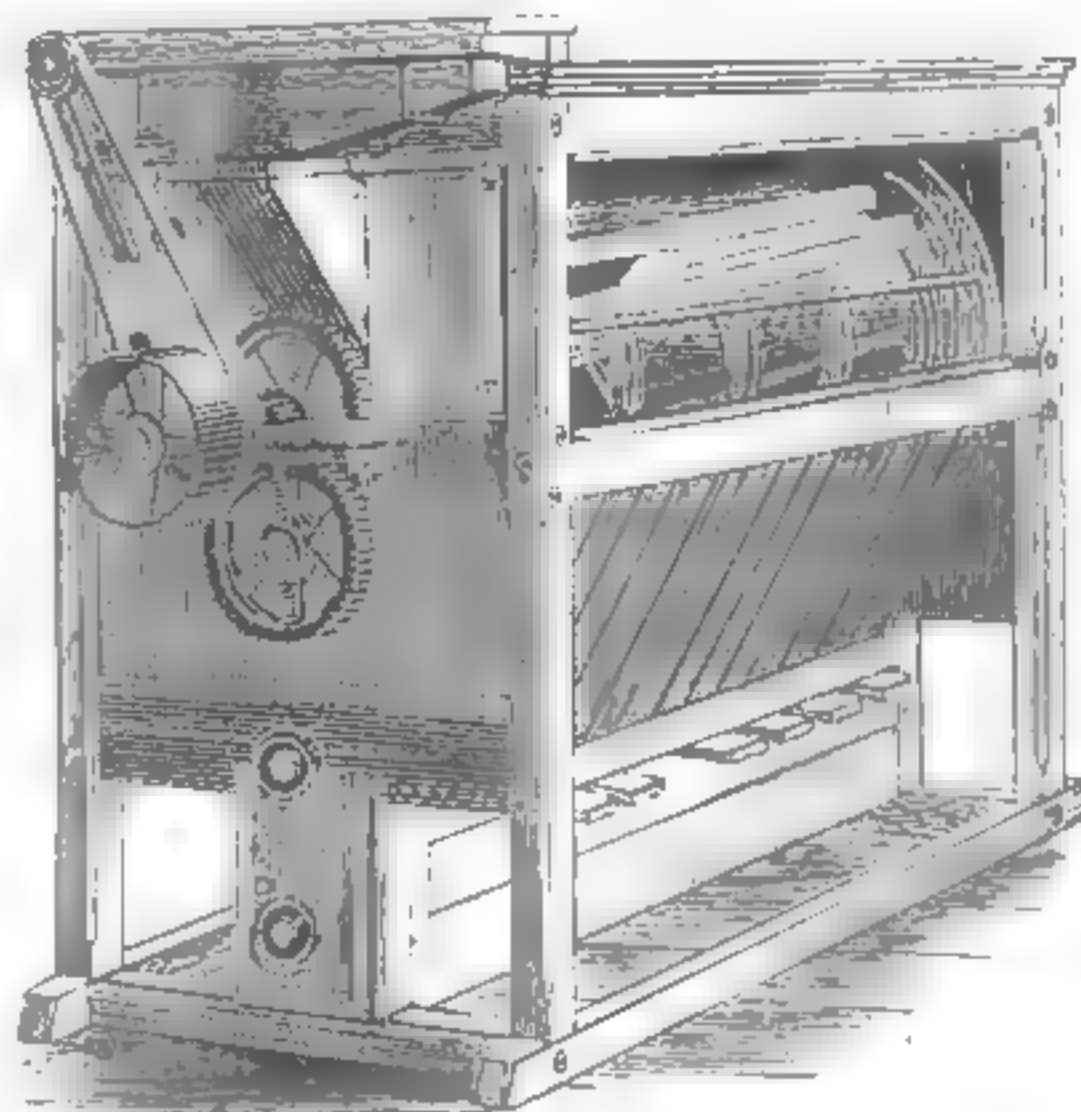
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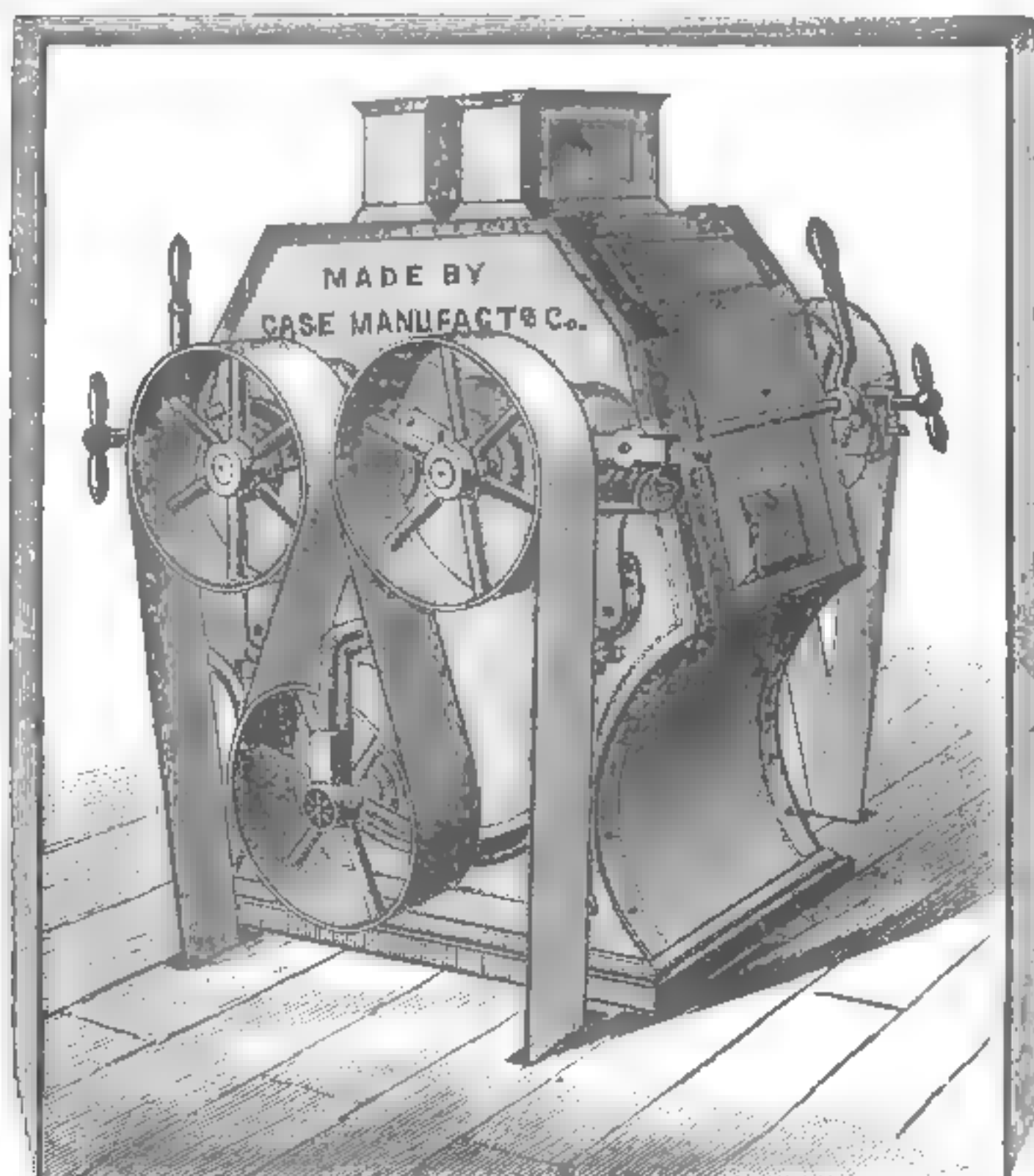
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CASE MFG. CO., COLUMBUS, OHIO.

XENIA, OHIO, Dec. 15, 1884.

Gentlemen: Feed box received; put it on in a few minutes; started up in a very short time. I was surprised to find my tail over as poor. I examined middlings and found them at least 25 per cent. clearer. Examined flour, was whiter and clear of specks. You know I feel happy, and all because of that little feed box. To sum it up:

- 1st. Simplicity and Durability.
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Wishing you a Happy and Merry Christmas, I am, Respectfully yours,

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CORN MILLING, PAST AND PRESENT.

AN industry so vitally affecting the public as that of corn-milling cannot be regarded with slight concern, and the change which has lately come over the system pursued among us should command some attention. The quality of the bread available for our consumption is a point of great importance, and it is worth while, therefore, to glance at the present outlook in corn-milling affairs, for upon the condition of the flour must largely depend the quality of the bread. It is tolerably safe to say that within the last few years our flour has greatly improved in general quality, and we have not to look far for the cause. The corn-milling trade is in the throes of a revolution, and great effects are already apparent. Not the whole country, it is true, has yet been reached by the tide of innovation which for some time has been setting into this country from the Continent to alter our old corn-milling ways. Even the metropolis stands at present comparatively high and dry above it, and, to borrow a kindred figure of speech, they have there reaped as they have sown, for it is a matter of common report that in London the people are content to eat nearly the worst bread in the country.

As in so many other things of importance to the individual and community, so in this matter of milling regeneration, it is the North again which is to the fore, while, with some exceptions, the rest of the country has lagged behind to its own detriment. Sometimes it is allowable to praise ourselves, and Manchester and Yorkshire and the North of England may take credit that they early saw the advantage to be won by replacing the method of grinding corn with stones, hoary with antiquity and respected if only by reason of its age, with a system less simple, but more perfect. It was only in 1878 that Mr. Henry Simon established in this city, the first complete roller-grinding mill in England, and when we add that at the present moment that gentleman has no fewer than a hundred such mills at work in England, Scotland and Ireland, we place on record a very significant fact. Faithful to the English custom, with the new and untried, those millers who were forced to see the great meaning of this new method, sought at first, a compromise by furnishing their mills partly with rollers and partly with stones. It has not been an altogether successful compromise; all rollers or all stones have been clearly the alternatives; and the roller system has triumphed.

The situation certainly demands explanation. The new system, which promises after so recent an introduction, soon to overrun the country, brings with its perfection of course more complexity. In this respect it fairly well answers to Mr. Spencer's definition of the law of progress, for it has indeed been "an advance from the homogeneous to the heterogeneous." Corn-grinding, old style, was a comparatively simple business. You ground your wheat pretty effectively, but it was a rude way after all, and quite unworthy of the times. Parts of the wheat quite undesirable to retain were ground with the flour, and the bread suffered accordingly. By the new method the wheat may pass through many processes, all of which tend to make the flour better for use. The system originated in Austria and Hungary, principally Buda Pesth. It is there where the best possible flour may be obtained. The flour is made by the most improved machinery, but as the system is followed there in a way which would not be

suitable to England or America, it is hardly worth while entering on a detailed comparison. The same employment of a large number of men and the same machinery would not pay. The roller system, as applied in England and America, has therefore been so elaborated that the wheat is put in at one end of the machinery, as it were, and taken out as flour at the other, a small number of men being employed. As for many years, English bakers and housewives and millers have been accustomed to buy different kinds of Hungarian flour for mixing with the darker flour produced in this country, an increasing demand for superior, well-cleaned, and white flour has gradually been established, and it is as yet difficult for many English millers to respond to it.

The reduction of the grain into flour is done by two general methods, the one being called high-grinding, and the other low-grinding. Low-grinding was the rule in this country until recently, while on the other hand the large quantities of flour imported from Hungary are produced by high-grinding in the strictest sense. The low-grinding method of the country miller works in this way. Desiring to get through his work in the shortest possible time, he sets the stones very close, and soon produces a considerable quantity of flour. This flour, however, is dark, because the branny outside and the germ of the wheat in their course through the closely-set, sharp, rubbing surfaces of the stones are to a considerable extent, likewise reduced into small atoms and mixed with the flour, and flour containing such admixtures in a large proportion, does not keep well, and easily acquires a nasty taste. There is a further disadvantage in the heating of the material caused by this treatment. It is the chief advantage of the roller system that the bran or husk and germ of the grain are flattened out by the action of rolling, and are consequently, easily to be sifted out by the proper application of dressing machinery. This advantage, as it has been said, cannot be over-estimated, seeing how detrimental is the action which both bran and germ have on the keeping and baking qualities of flour. To detail the processes through which the grain passes, in, say a medium mill, would take up too much space; but we may say that in such a mill the wheat passes through about forty rollings, or dressings, or preparatory processes. In the earliest stage, where the rough wheat is dealt with, powerful magnets are fixed for a curious purpose. They are to pick out of the grain stray bits of binding, for nowadays—and in America especially—we bind our sheaves with wire, upon which, by the way, the reverer of the poetic past might hang a serious homily. While in general, the wheat undergoes so much sifting and reducing, the extent to which this is carried at the will of the miller, and though in a sense complex, the whole method is easy to understand and work. Taking into consideration the facts that the first cost is not very much greater than by the older method, that with the same motive power almost twice as much work can be done by the new as by the old, and that the automatic character of the machinery renders it easy of control, it is difficult to believe that the roller system will not eventually establish itself over the whole country. Already in the large towns where good bread is demanded, the rolls are dominant, and the stones becoming extinct, except in London. There, however, some progress is being made against the conservatism of the millers, while in Manchester and Liverpool, the large towns of Yorkshire, in Glasgow, and—to cross the Irish Sea—in Belfast, Carlow and Londonderry, the new method is in use. Certainly, in a struggle between an old and worn-out system of milling, with only age to recommend it, on the one hand, and a new one

productive of benefit both to producer and consumer on the other, the final result, at this time of day, cannot be doubted.—Ex.

ABOUT THE SIZE OF IT.

From *Allgem.-Muehlen und Masch. Industrie Zeitung*.

Millers of the present day in order to keep up with the times have to produce a large variety of flours of different quality. As late as 1840 the Vienna milling method, the so-called "middling system" was considered superior to anything is existence, and flours from Vienna were exported to Bohemia, Silesia and Upper Austria, while the bakers who wanted to produce first-class bread declared that only the Vienna flour gave satisfaction for such purposes. That was the time when foreign millwrights began to improve milling machinery by the introduction of iron rollers for the crushing and grinding of the grain, and also by the introduction of French burrs which were renowned for their superior hardness. About this time originated the first roller mill of Messrs. Oexle & Co., in Venice; later on one in Pest and in 1841 a stock company built the first steam mill in Vienna, designed by John Cockerill of Seraing in Belgium. Mr. Chalange, from one of the largest milling establishments of France, who superintended the building of this mill, experimented for the production of flour according to the French milling system (*Mouture basse*) from the Banat wheat, but the bakers of Vienna refused to use it after the first trial as of too poor a quality to suit their demands.

In 1845 a stock company built a steam-mill at Prague, and fitted it up with rollers of the Frauenfeld system, but after a few months trial, these were again removed and replaced by the Vienna middlings system. During these years some of the millers of Pest in association with first class millwrights had made such important improvements in the rollers that soon the Hungarian system was recognized all through the Austrian and Hungarian dominion. The new roller system yielded the largest quantity of fine quality, but the smallest quantity of ordinary flour, so that there was soon a large production of high grades, for which the demand was not very large, while common brands were not produced in quantities sufficient to supply the market. The reason that the Austrian-Hungarian flour export did not assume larger proportions must be due to the fact that the milling systems of other countries are less expensive than ours. If foreign consumers were capable of appreciating the fine qualities of our flours, bakers would soon find a demand for it among their customers and a larger export would be the consequence. The solution of the question how to solve the discrepancy between the wholesale and the retail prices of our flours seems simple. Whoever desire to purchase flour at wholesale, can do so at every mill; if one has not sufficient money, 5, 10 or 20 can club together for the purpose.

The importation of foreign flours into Austria-Hungary is not to be feared, because they are of such inferior quality. It is with all possible that in Bavaria, Saxony, Prussia the poorer population will derive their supply of inferior quality flour from outside sources, but none of the inhabitants of our larger cities will prefer French or American flour to the Hungarian, especially American, which, according to the latest news is mixed with wood flour for export. The solution of the question why the price of bread has not lowered with the price of flour, is more difficult. It seems that competition among bakers should be sufficient to regulate that, but it has not. The majority of bakers work with little or no capital and competition from them is out of the question, because they are unable to

purchase large quantities of flour for cash, as rich bakers are able to do. A baker who uses, for instance, 200 kg. flour per day, cannot compete with one who uses 1,000 kg. Fifty bakers, each using 1,000 kg. flour per day can work at a profit, when 50 bakers, averaging only 200 kg. each per day, will fail.

THE FRENCH GOVERNMENT FORCING A CRISIS.

French trade and manufactures continue in anything but a satisfactory condition, and, in the vain effort to bring about some improvement through the dubious process of special legislation, we observe that the contest between the Protectionists and their opponents is revived, and with renewed acerbity, says the *New York Commercial Bulletin*. While on the surface it would appear that the protectionist feeling is making some headway, we think it is more than offset by the undercurrent of angry agitation at the leading industrial centres against the present or prospective advance in the prices of bread and meat consequent upon the policy of the government. The proposed extra duty on cereals will probably be forced through the Chamber; but unless the signs of the times are deceptive, it will not be long before the government will have cause to repent of its folly, in reprisals against French products on the part of foreign nations that are at present the best, or among the best, customers of France for her wines, fancy goods, silks, etc. Apprehensive of this, it is not surprising that numerous Chambers of Commerce—notably those of Paris, Lyons and Bordeaux—have raised vigorous protests against the return to excessive or prohibitory duties. These Chambers of Commerce voice the intelligent business sentiment of the great trade and manufacturing centres, while back of these are the great army of workmen, who realize that dearer food means reduced or less purchasing power for wages. If Minister Ferry persists in his restrictive policy, another era of strikes, lock-outs and riots in the cities will be inevitable; and this, too, at a time when the popular feeling with reference to the serious drain upon the resources of the country for the conduct of an apparently aimless campaign against a people on the other side of the globe needs to be conciliated, not exasperated. Under these circumstances, it is not surprising that Socialists and Anarchists are again cropping up in Paris, Lyons and other cities, where the industrial depression is most directly felt. The man-on-horseback and the *gens d'armes* for the moment may prevent these from accomplishing serious mischief; but when their demonstration against the government are reinforced and intensified, as it were, by the remonstrances and appeals of the mercantile and manufacturing interests, the crisis is one which will have to be met, not by force, but by concession and a timely retreat from unwise measures, or the Ministry, otherwise the government may find itself in as precarious a position as any of its not less purblind predecessors at a moment when they were vain enough to suppose they were least vulnerable.

NOTES.

At the late Congo conference held at Berlin, it was stated that the cost of a railway from Stanley Pool to Lower Congo would be \$1,250,000 and that it would require the carrying of 100 tons of freight daily to pay four per cent on the cost. The scheme is regarded as outside the scope of the conference.

On the 16th December, the steam flour mill of M. Mamougi, at Odessa, South Russia, was destroyed by fire. The mill contained four pairs of stones, and Mr. M. S. Weinberg, was the tenant; the mill and its contents were insured for 48,000 roubles. Another Russian mill, owned by a Joint Stock Company, has also been destroyed by fire. Damages 650,000 roubles.

Peterhouse College, Cambridge, is said to be the first college to adopt the electric light. Not

only are the courts of the college, the hall, combination room, and chapel lighted by electricity, but the rooms of the undergraduates and the master's lodge as well. It owes its introduction to Sir William Thompson, who, at his own expense, has supplied the necessary apparatus.

The value of agricultural lands in France, based on the production of 15 hectolitres of wheat per hectare, (17½ bushels per acre,) is given in Le Fermier, Paris, of Dec. 27, which for the convenience of the reader we have reduced to dollars and cents per acre. In Department du North the highest value is given, \$447.88 per acre; Pas de Calais comes next, at \$319.02 per acre; four departments \$238.10@303.66 per acre; 23 departments \$156.52@174.11 per acre; 50 departments, \$78.18@153.40, six departments \$40.24@72.11.

In order to give some idea of the progress of agriculture in New South Wales the Engineer gives the quantity of land under cultivation at the close of 1883, as follows: Wheat, 289,7557 acres; maize, 123,634 acres; barley, 5,081 acres; oats, 17,810 acres; rye, 1,140 acres; potatoes, 14,953 acres; tobacco, 1,785 acres; sugar-cane, 14,984 acres; grape-vines, 4,378 acres; oranges, 7,268 acres; sown grasses, wheat, barley and oats, for hay, 178,503 acres; same, for cattle, 107,993 acres. Gardens and orchards absorb 17,455 acres, the whole quantity of land under cultivation considerably exceeding three-quarters of a million acres.

Formerly the greater part of the German immigrants came from the Rhenish Provinces, but it is said the centre of emigration is now displaced toward the northeast. Of the 668,000 Germans who immigrated to America from 1881 to 1883, 62.8 per cent. came from Northern Germany, and only 22.2 from South Germany: 15.4 per cent. of the total emigration during these years was from Mecklenburg and Pomerania; 10 per cent from Bremen, Hanover, Oldenburg and Brunswick, and 10 per cent. from Western Prussia; while only 1.7 per cent. left Alsace-Lorraine, and 3.2 the Province of the Rhine in order to seek their fortunes in a new world.

There was an interesting debate in the Reichstag one day last week, on the Workmen's Protection bill, lately introduced by Prince Bismarck, which seeks, among other measures for the benefit of workingmen, to establish a fixed number of hours to constitute a normal working day; This provision was vigorously attacked and declared to be impossible of enforcement. If it were interpreted to compel employers to pay laborers for time necessarily lost in waiting for work, it would only result in the employers cutting down the wages for a day's work, and if they were only to be paid for the hours they were actually at work, they would be compelled to lose their own time and would have to be on hand for a greater number of hours than at present in order to earn the same amount of wages.

AN ACCOMMODATING APPLICANT.

"Now sir," said a pompous individual, seating himself at the superintendent's desk and glaring into that functionary's eye. "Now, sir, if you will make me out a pass over the entire length of your road, I will not detain you any longer, for I know you are a busy man."

"I can spare the time for you to tell me why you should have a pass," replied the superintendent, wearily.

"I am a temperance advocate, and I am going to lecture along your line. If you give me a pass I will ring the road into my lectures and advertise you."

"Well," retorted the superintendent, "as our road is pretty well known through the country it is built in, I don't understand that your advertisement would do us any good, and I don't see that I can issue you a pass on that ground."

"My dear sir!" exclaimed the applicant, betaking his chair closer and laying his hand confidentially on the superintendent's arm. "I want you to be satisfied in this matter. I would not have you do a thing that will grind on your conscience; and in after years I want you to think of this transaction with mingled pride and pleasure. On what ground would you like to issue that pass?"

But as the superintendent didn't have any grounds at his finger end just then, the pompous applicant stalked out, muttering that his temperance lecture might do the

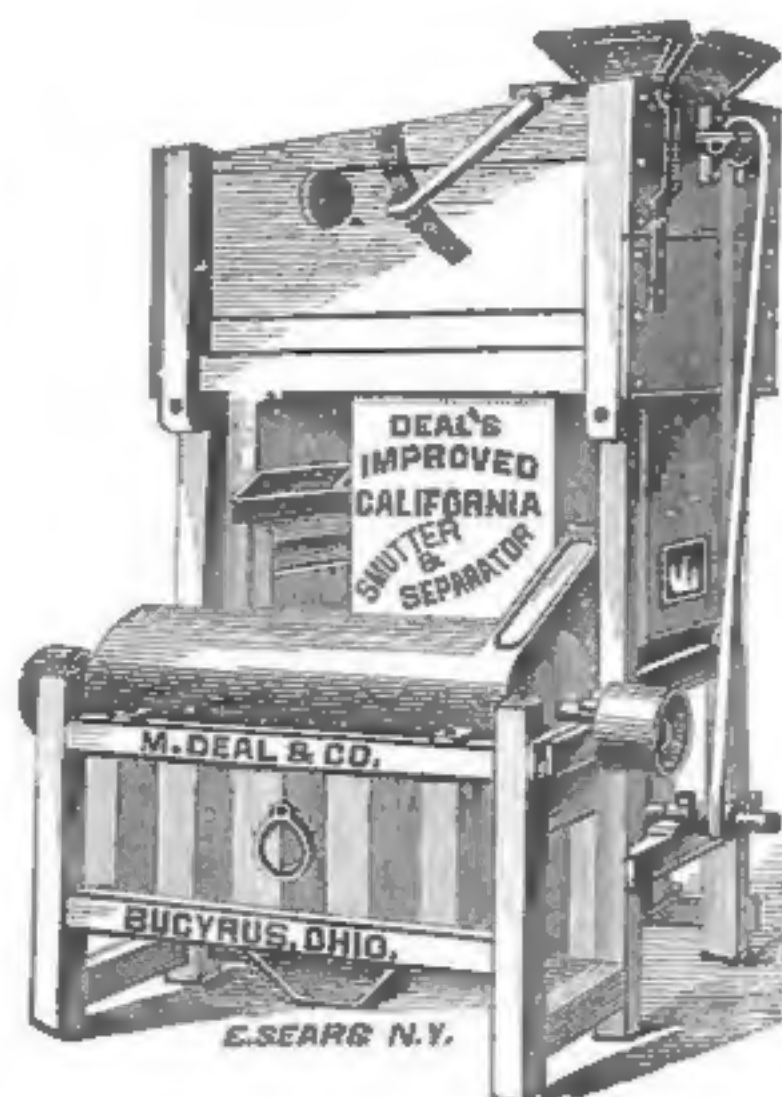
employees of the road some good if the advertisement didn't.—Drake.

BROKEN FAITH.

A dudish youth dropped in a Sixth Avenue saloon the other night for liquid refreshments. Just as he drank the last drop he asked the mixer of decoctions, "Have you seen anything of Goosey to-night?"

"Goosey, who is Goosey?" inquired the barkeeper.

"Why, I thought everybody knew Goosey. He walks like this," and the dude, imitating the mythical bow-legged Goosey, got away before the dispenser of drinks detected the swindle.—Drake.



CALIFORNIA!

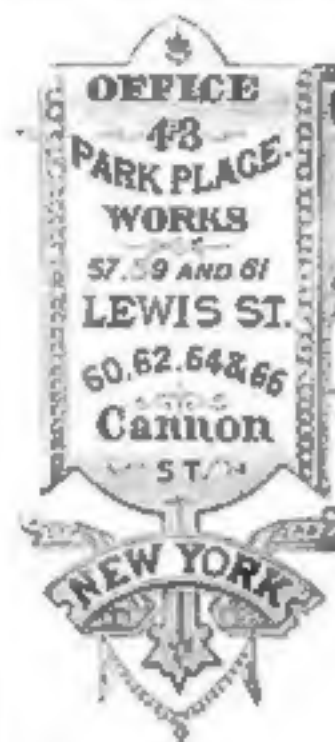
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Warranted The Very Best In America.

The purchaser being the judge after 60 or 90 days' trial. We manufacture a complete line of Grain Cleaning Machinery, and guarantee every machine to give entire satisfaction or no pay. Send for circulars, it will pay you.

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Sole Owners and Manufacturers,
BUCYRUS, OHIO U. S. A.

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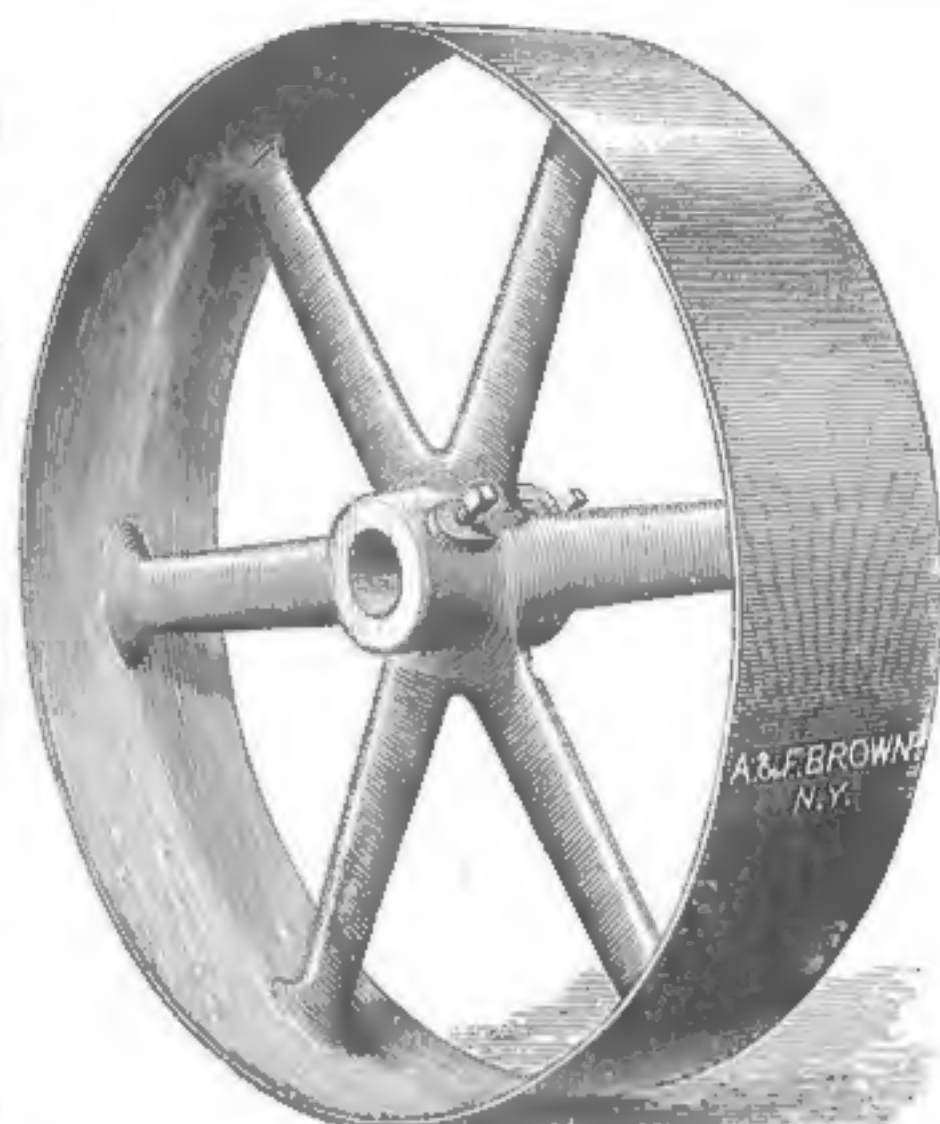


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PATENT INTERNAL CLAMP COUPLINGS BROWN'S PATENT FRICTION CLUTCH.

A. & F. BROWN, 43 Park Place, NEW YORK.

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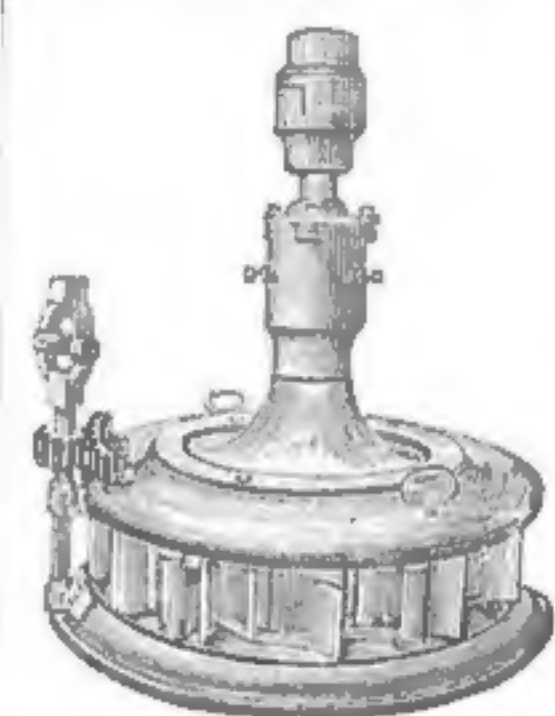
⊗ TURBINE WATER WHEELS A SPECIALTY. ⊗

W. H. W. Wheeler.

WE BUILD THE IMPROVED BOLLINGER



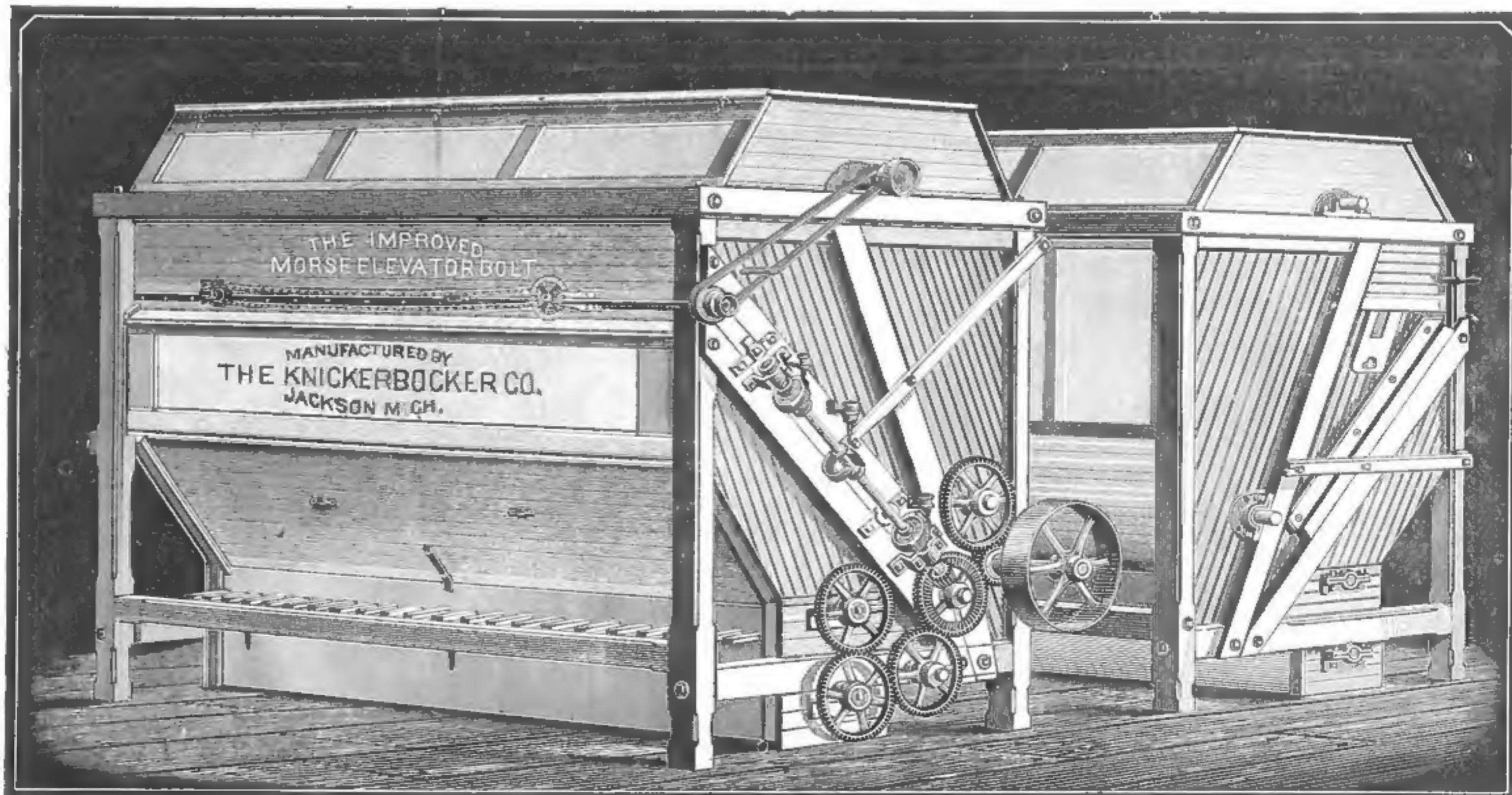
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TURBINE WATER WHEEL.

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The Improved Morse Elevator Bolt.



DEMONSTRATED IN OVER 100 MILLS TO BE THE BEST BOLTING DEVICE KNOWN.

THE KNICKERBOCKER CO., JACKSON, MICH.



Office of THE MILLING WORLD,
Buffalo, N. Y., Feb. 4, 1885.

The "Commercial Bulletin" of this date says: Visible supply of wheat is now 42,658,259 bushels. As compared with last week, this shows an increase of 76,556 bu; as compared with a year ago, an increase of 9,866,525 bush, and as compared with two years ago, an increase of 20,363,823 bushels. According to the Chicago visible supply figures, the amount of grain in the United States and Canada includes 47,913,351 bushels wheat, 4,966,971 bushels corn and 2,106,371 bushels oats. The stock of wheat in Chicago is 14,608,738 bushels, against 14,556,731 bushels last week—an increase of 152,007 bushels. At the close of the Board yesterday both bulls and bears were looking forward to the "visible" statement for a basis on which to work in operations to-day. The bears anticipated a large increase; the bulls feared it; but this morning the bulls were disappointed. The visible increased only 76,000 bushels by the local statement and 22,000 bushels by the western report. The interior movement of wheat is well kept up, especially in the Northwest and at Toledo. In the Southwest the receipts are alleged to be decreasing. Cable news was not inspiring. Markets abroad were dull and steady by the public advices, and weak by the private cables. Liverpool houses were free sellers on cable news. A slight rally took place at the opening on the visible, but as there was no demand for wheat at the advance, prices declined 3/4c. A cable was received about noon reporting Liverpool firm; and on this, and rumors from the west that several prominent parties had combined to bull the market, prices rallied 3/4c. on fair buying. There were almost virtually no outside orders and no cash demand to sustain the advance, and the early Board closed 3/4c. under the highest figures.

The flour market has been simply the reflex of 14 or 15 other days just past—dull. Commission men have professed to see a better market, but it has been merely sentiment and not an actuality. The demand is for very small parcels. The tone of the market is weak. The receipts continue to run light. The market for rye flour has been quite active and steady at \$3.60a.3.85. Buckwheat flour is in fair demand and, without decided change in prices, the market is steady in tone; \$1.75a.1.95 is the range for the general business, and \$2.00 an extreme price for fancy lots. For corn goods there is a moderate demand, but the market still shows a steady tone. Millfeed is fairly active at steady figures; track receipts continue light, and offerings of city feed moderate.

BUFFALO MARKETS.

FLOUR—City ground clear Northern Pacific spring \$4.75@5.25; straight Northern Pacific spring, \$5.25@5.75; amber, \$5.00@5.25; white winter, \$5.00@5.25; new process, \$5.75@6.00; Graham flour, \$4.50@4.75. Western straight Minnesota bakers, \$5.00@5.25; clear do, \$4.75@5.25; white winter, \$5.00@5.25; new process, \$5.25@6.50; low grade flour, \$2.75@4.00. **OATMEAL**—Ingersol \$5.00; Bannerman's \$5.25; Akron \$5.50. **CORNMEAL**—Coarse, 90c; fine, \$1.10 per cwt. **RYE FLOUR**—In fair demand \$4.00@4.25. **WHEAT**—Nominal. For No. 1 hard Northern Pacific at the Call Board, 94c, asked cash 93c. asked Feb., 90c. bid May and June; for No. 1 Northern 93c. asked 89c bid cash, 95c asked June; for No. 2 red winter 89c asked 86c bid cash; sale 1,000 bu at 87c Feb., and one car-load No. 2 long-berry at 92c cash; for No. 1 white winter 90c asked cash, 92c asked 91c bid May. **CORN**—Weak. Sales five car-loads No. 2 at 40 3/4@47c, two do No. 2 yellow at 47@47 1/2c, do No. 3 yellow at 46@47c; at the Call Board 1,000 bu lots No. 2 offered at 47c on track; 45 1/2c asked 44 1/2c bid March, 45 1/2c asked 44 1/2c bid May; for No. 3 mixed 46 1/2c asked cash and 46 1/2c on track; sale one car load No. 3 yellow at 46c cash and 1,000 bu do at 45 1/2c

March. **OATS**—Weak. Sales three car-loads No. 2 white at 35 1/4@36c, two do No. 1 at 36@36 1/2c, and one do No. 2 mixed at 35c. **BARLEY**—Firm. Canadian quoted at 70@90c and State at 60a.80c as to color and quality. **RYE**—No. 2 Western nominal at 75a.77c.

BUFFALO WHEAT MARKET.

BUFFALO, N. Y., Feb. 4, 1885.

The market is dull but steady and very little changing hands. No. 1 hard Duluth offered at 93 1/2a.94, but bargains might be had at 93. No. 2 hard 90 1/2; No. 1 Northern offered at 92a.92 1/2; No. 1 white 90; No. 1 red winter offered at 91. Last weeks shipments of Duluth wheat were very light, being only about 50,000 bushels. The shipments of Duluth wheat from Buffalo elevators for January, 1885, show an increase of 400,000 bushels over those of January, 1884. No. 2 mixed western corn quoted at 47c; No. 3 prime 46, and No. 2 yellow 47 a.48. Oats nominal.

J. S. MCGOWAN & SON.

FOREIGN EXCHANGE.

The market for sterling quiet and fairly steady, notwithstanding that some of the leading drawers reduced posted rates 1/2c. to 4.81 and 4.87 1/2, others maintain 4.84 1/2 and 4.88. The actual rates were; sixty days', 4.83 1/2a.4.83 3/4; for demand, 4.86 3/4 a.4.87; cables 4.87 1/4a.4.87 1/2; commercial bills 4.81 1/4a.4.82. In Continental bills there is very little doing and quotations are: Francs, 5.22 1/2a.5.21 1/2 and 5.19 3/4a.5.18 3/4; reichsmarks, 94 1/2a.94 1/2 and 95 1/4a.95 1/2; guilders, 40 and 40 1/4. The closing posted rates were as follows:

	60 days.	90 days.
London	4 84 1/2	4 88
Paris francs	5 20 1/2	5 18 1/2
Geneva	5 20	5 17 1/2
Berlin, reichsmarks	94 1/2	95 1/2
Amsterdam, guilders	40 1/4	40 1/4

THE prospects of shortening the route for California wheat to Europe by the way of a Nicaragua canal have been blighted, by a rejection of the treaty drawn up for that purpose by the United States Senate. Capt. Eads ship railway scheme will now be in order, and if that fails too, we will have as a final resource, De Lesseps Panama Canal, which may after all prove the best of all, in spite of the numerous protestations from numberless sources. The specially emphasized statement that it will cost more than the original estimate, does not detract anything, because what great undertaking was ever finished without overdrawn the original estimates especially in the United States?

NOTES.

The Lake Superior News says, Geo. H. Christian, who leased the Duluth & Western elevators, is the man who first introduced into this country the plan of manufacturing flour by the "roller process." The story goes that he learned the advantages of the process in Hungary where it was being tried on a small scale, brought to Minneapolis a Hungarian miller and gave him an interest in the business, which paid splendid profits. The mill men were sworn to silence and the secret was carefully guarded for a considerable time. When at length other Minneapolis millers learned the secret Mr. Christian had made a comfortable fortune.

The wheat crop of Iowa, says the St. Louis Republican, is officially stated at 35,000,000 bushels, the average yield at thirteen bushels per acre, and the average price, 55 cents a bushel. It has been shown that the cost of raising wheat in Missouri is about 52 cents a bushel, and it is, probably, the same in Iowa. This leaves the Iowa farmer a net profit 3 cents a bushel on the grain. The cost of raising last year's crop 35,000,000 bushels was \$18,200,000, and it brought the farmers, \$19,250,000—net profit, \$1,050,000. This is certainly a slim result; it shows that wheat raising in Iowa was not even as good a business, last year, as iron-making in Pennsylvania.

JOE GREGG'S REVENGE.

Joe Gregg was a trifle too tall for a midget, and just a little too short for an ordinary-sized man. His body was long and his legs bowed out like a pair of barrel staves. His

arms were short and knobby, like piano legs, and his face was adorned with a fiery red moustache, long enough to tie behind the ears if he had chosen to wear it that way. He wore a wide-brimmed, slouch hat, which completely covered his head, and his short, pointed beard shone through its shadow like a red candle under a black bushel. His wide leather belt was filled with blood thirsty weapons of various sizes and descriptions, and the handle of a bowie knife protruded from the leg of one of his boots. He looked like a border ruffian, reduced on the scale of four inches to the foot.

The first time I ever met Joe Gregg was at Wabasha, Minnesota, before the days of the railroad, when the river travel brought a large number of men and desperadoes daily to the village. It was in the Chippewa Hotel, one October night. The stage stopped at the door, and Joe walked into the bar-room, which served as parlor, sitting room and library. Joe stopped on the threshold, shaded his eyes with his hand, and surveyed the crowd that was seated around the stove.

"Has any one seen Nathan Stewart?" he inquired, as he laid his other hand on the butt of a revolver.

No one replied.

"Cos if any one has," he continued, "I want to know at once."

"There ain't no one here by that name, stranger," politely replied the clerk, who evidently desired to keep the peace unbroken.

"What?" ejaculated Joe, as he whipped out the weapon. "Has he escaped me again?"

"I guess he has, stranger. Leastwise" he added half apologetically, as Joe wheeled around and faced him with the shining weapon in his hand, "it looks that way to me."

"That's luck," soliloquized Joe, as he slowly replaced the pistol in his belt, "and here I've followed him over two thousand miles. But I'll catch him yet, and then"—here Joe tapped his arsenal significantly, and looked even more blood-thirsty than before.

"Well," he continued, as he sauntered up to the bar, "gimme some rye, and be quick about it."

The barkeeper, who had listened to the dialogue with both ears wide open, did not waste any unnecessary time in filling the order, and after Joe had drained the glass, he took his seat in the circle around the stove.

"Who is this Nathan Stewart?" ventured a rawboned lumberman who sat next to Joe in the circle.

"It's none of your business," replied Joe savagely. "You ain't him and that ought to satisfy you. If it doesn't—"

"Oh! but it does," replied the lumberman quickly. "I was only a little curious, that was all."

"Well, my friend," returned Joe in a slightly pleasanter tone of voice, "keep your curiosity to yourself."

The rest of the evening was spent in a silence unbroken, save by the orders for liquor, which, it is needless to say, came as often from the new comer as from any of his older comrades. The conversation flagged, and finally died out. The arrival of the little man had cast a damper on the company.

For the next week, and, in fact, as long as I remained in the village, Joe Gregg was regarded by the native and visiting roughs as a noted character. The incident at the tavern, his ferocious air, and his surly insolence, gave him a position which was to be envied. Without striking a blow he had achieved a reputation for bravery and pluck that carried him about the settlement unscathed, where many a larger man would have been murdered half a dozen times over.

That was over ten years ago. I had lost all track of Joe, but had not forgotten him by any means. I often wondered whether he had ever found his victim and satisfied his thirst for revenge, but had about made up my mind that I should never know, when one day, a year or so ago, I found myself seated in a small railroad restaurant in Miles City, Montana, opposite a tall, well-dressed, powerfully built man at one end of the side tables in the room. Although we were strangers, we had drifted into conversation, when I heard a voice at the cashier's counter that I recognized instantly. Looking up I saw my friend Joe, as black-hatted, heavily-armed, and red-headed as ever. After receiving a reply from the attendant, he stalked down the room and stopped at our table.

"Say," he remarked, as he brought his fist down on the table; "you hain't seen Nathan Stewart, have you?"

"What if I have?" replied my vis-a-vis. "What do you want with Nathan Stewart?"

"I want to shoot him so full of holes he won't hold water. I want to chop him into pieces. I want to drink his heart's blood."

"Well," remarked the stranger, straightening up, "you had better begin."

As he rose in his seat the face of Joe turned a greenish color.

"You don't mean to say that you are Nathan Stewart?" he stammered.

"Yes I am, and if you don't get out of here in five seconds, I'll knock you through a window."

In less than half that time Joe had gone, and the stranger resumed his seat at the table. If he had peppered, salted, and eaten himself I would not have been more amazed. So this was the brave Joe Gregg, and this was the revenge he was looking for! After a few minute's silence, I remarked:

"So your name is Nathan Stewart? I have heard a great deal about you."

"No it isn't," replied the stranger. "My name is Jones."

"Jones?"

"Yes. There isn't any Nathan Stewart. He has been dead about fifteen years."

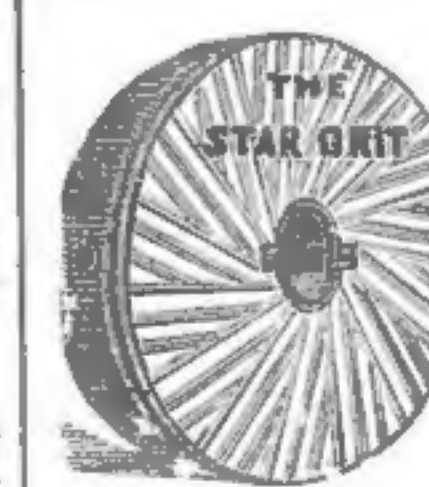
"You knew him, then?"

"I should say I did. So did Joe Gregg. Stewart was a Pottsville tailor, and Joe was his apprentice. Joe used to make my clothes before he turned desperado."—Drake

JAMES S. MCGOWAN & SON, SHIPPING AND COMMISSION MERCHANTS.

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Room 60 Board of Trade Building.
BUFFALO, N. Y.

No Charge for Inspection



**WATER WHEELS
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Best and Cheapest in the world. Manufactured by A. A. DeLoach & Bro., Atlanta, Ga. Every farmer can now afford a Grist Mill. Sixty four page catalogue free.

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Manufacturer and Dresser of MILL PICKS.

Made of the very best double-refined English cast steel. All work guaranteed. For terms and warranty, address GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, O. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF
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AND MACHINE JOBBING.

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Builders from the Raw Material of

ROLLER MILLS, CENTRIFUGAL REELS, FLOUR BOLTS.

WE ARE THE SOLE OWNERS FOR THE UNITED STATES OF ALL THE PATENTS UPON THIS ROLLER MILL.

This Is the Only Roller Mill Made Having All the Essentials Needed In Successful Milling.

100 BARREL MILL IN TENNESSEE.

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: Our mill, as planned and diagramed by you, has been in steady operation for near one year past, and in proof that you have given us a successful job, we will simply say that in the face of very dull trade, and while other mills were running on short time, we have been running full handed, in order to supply a genuine demand for our flours. We must also notice, that although you only promised us 100 bbl. capacity, we easily make 140 bbls. per day without deteriorating in grades of flours. We use No. 2 wheat, and consume 4 bushels and 28 lbs. in making a barrel of flour. We make about 20 per cent. of very high patent, 10 of bakers' and 6 per cent. of low grade. Yet our mill is so constructed that we may vary these percentages to suit various markets. We have always been victorious in the sharpest competition, and from the first day of starting we have kept the highest position among all roller mills either located or represented in this region.

MEMPHIS, TENN., Dec. 16, 1884.

Yours truly,

G. W. COWEN & CO.

500 BARREL MILL IN ILLINOIS.

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: We started up our mill in June last year, and it gives us pleasure to say that your Roller Mills are doing splendid work and give us no trouble. Your milling program required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United States at the highest prices offered for any flour. All the machinery made by you is first-class, and we would not know where to purchase as good.

OFFICE OF DAVID SUPPGER & CO.,

HIGHLAND, ILL., Jan. 10, 1884.

Yours respectfully,

DAVID SUPPGER & CO.

125 BARREL MILL IN INDIANA.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: The 125 barrel All Roller mill you built us has been running all summer, and does its work perfectly. Before contracting with you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading mill furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes fully up to your guarantees, and the capacity runs over your guarantees. The bran and offal is practically free from flour, and our patent and bakers' flour compares favorably with any we have seen elsewhere. I don't think anyone can beat us. Your Roller Machines are the best we have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommend other millers to place their orders with you.

LAPEL, MADISON COUNTY, IND., Jan. 10, 1884.

Yours truly,

J. T. FORD.

Letters on file in our office from a large number of small roller millers giving as favorable reports as above. A portion will be published as occasion demands.

SPECIAL MILLING DEPARTMENT!

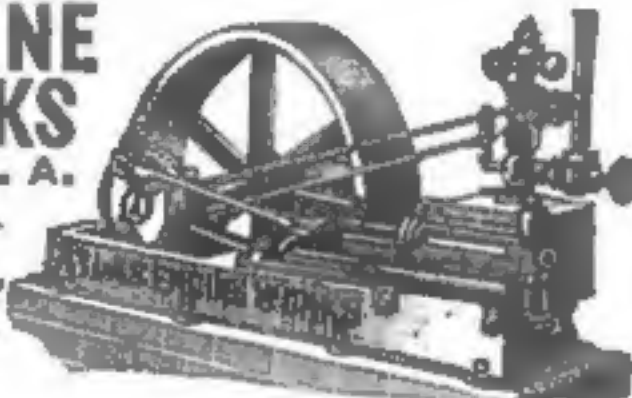
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STEAM ENGINES & BOILERS.
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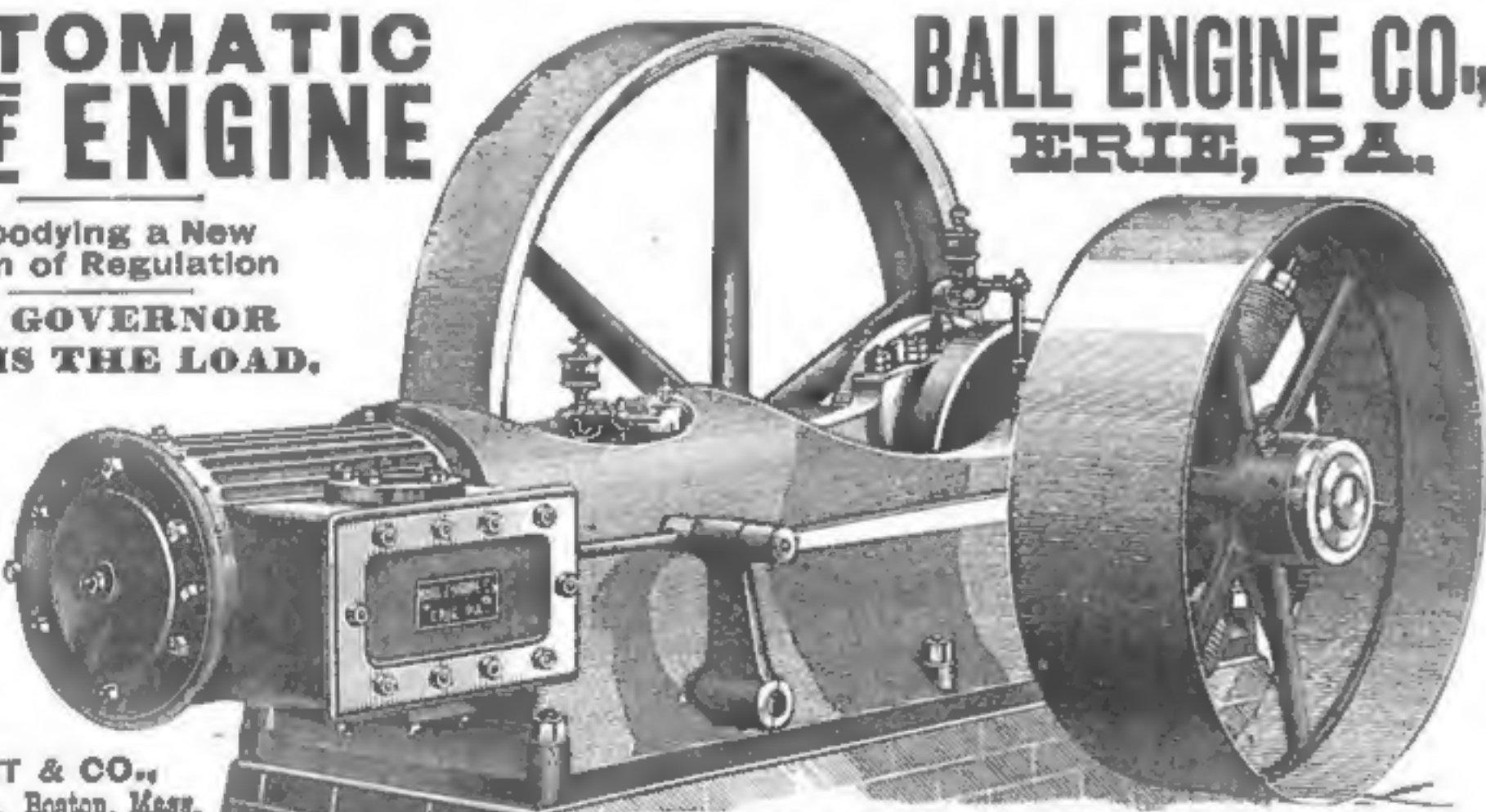
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THE GOVERNOR WEIGHS THE LOAD.

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WE CHALLENGE THE WORLD on good regulation. Only Engine which ABSOLUTELY HOLDS to constant speed under all changes of load, an indispensable feature for MILLERS.

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Steel Being Used in its Construction.

AGENTS WANTED EVERYWHERE.
CAPACITY 75 BUSH. PER HOUR.

Thousands of these Crushers are now in use, and giving entire satisfaction.

Please Send for Circulars.

R. C. McCULLEY, LANCASTER, PENN.

GET A COPY of THE MILLING WORLD for March 2. It will cost you nothing but a postal card requesting to have it sent to you.



UNION STONE CO., BOSTON, MASS. PATENT MILLSTONE CEMENT.

Invaluable to Millers for Repairing and Filling the Joints,

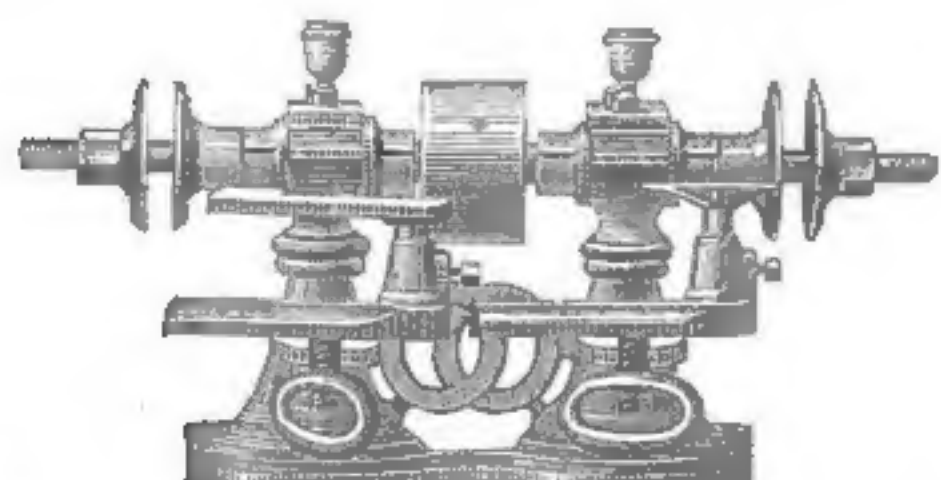
This is a new article of manufacture, and is greatly superior to the preparations now in common use, containing nothing of a poisonous nature. It has the nature and attains the hardness of a part of the Stone, and assists in grinding. Good Millstones are now in use, composed of miller's use, it is put up in cases of two sizes. Price per case: Small, \$3.00; Large, \$5.00. Otherwise we shall send C. O. D. by Express, collecting for return of the money. For manufacturers, the Furrows and

TRADE MARK.



Cavities and Seams in French Burr and other Millstones.

use by millers. It is much cheaper, and can be applied by an inexperienced person. It is perfectly of French Burr Stone, wears evenly with it, and not only fills the cavity, but adheres to and betirely of this preparation. The Leading Makers are Adopting it to Build Their Millstones. For We cannot open an account for so small a sum, therefore Cash should be sent with order, otherwise we furnish in bbls. of 800 lbs. Price upon application. Emery Rub Stones, for hand use in Finishing Faces of Millstones.



Emery Wheel Machine No. 0 Has 3/4 Inch Arbor.

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Union Emery Wheels, Emery Wheel Machinery and Tools a Specialty. Wooden Polishing Wheels, Automatic Knife Grinding Machines. Grinders' and Polishers' Supplies. Catalogue on Application.

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STEVENS NON-CUTTING ROLLER MILLS

The most substantial in construction.

The best designed frame.

The best feeder.

The best horizontal adjustment.

The best perpendicular adjustment.

The only fine adjustment.

The only successful adjustment made by one hand wheel.

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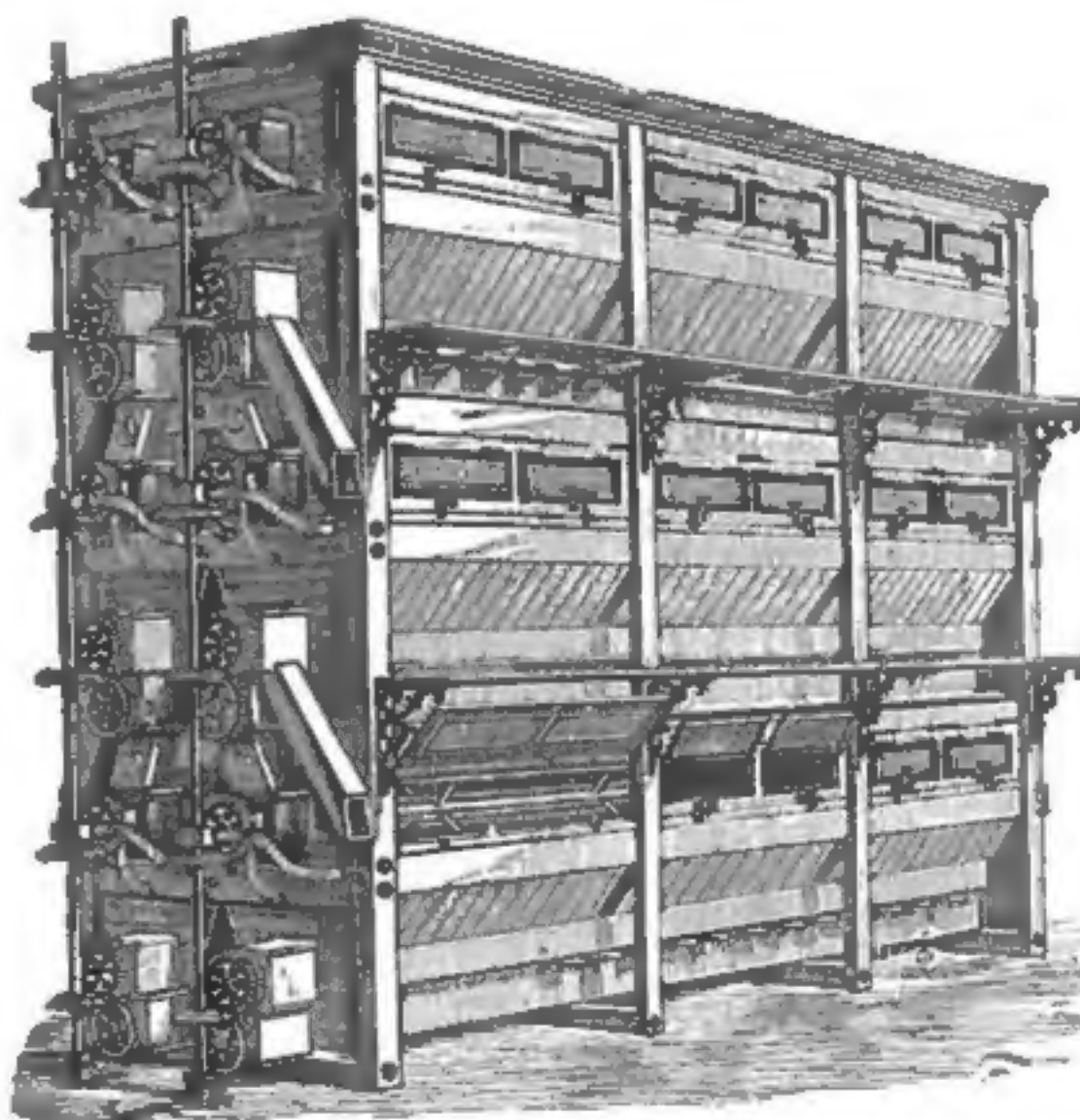
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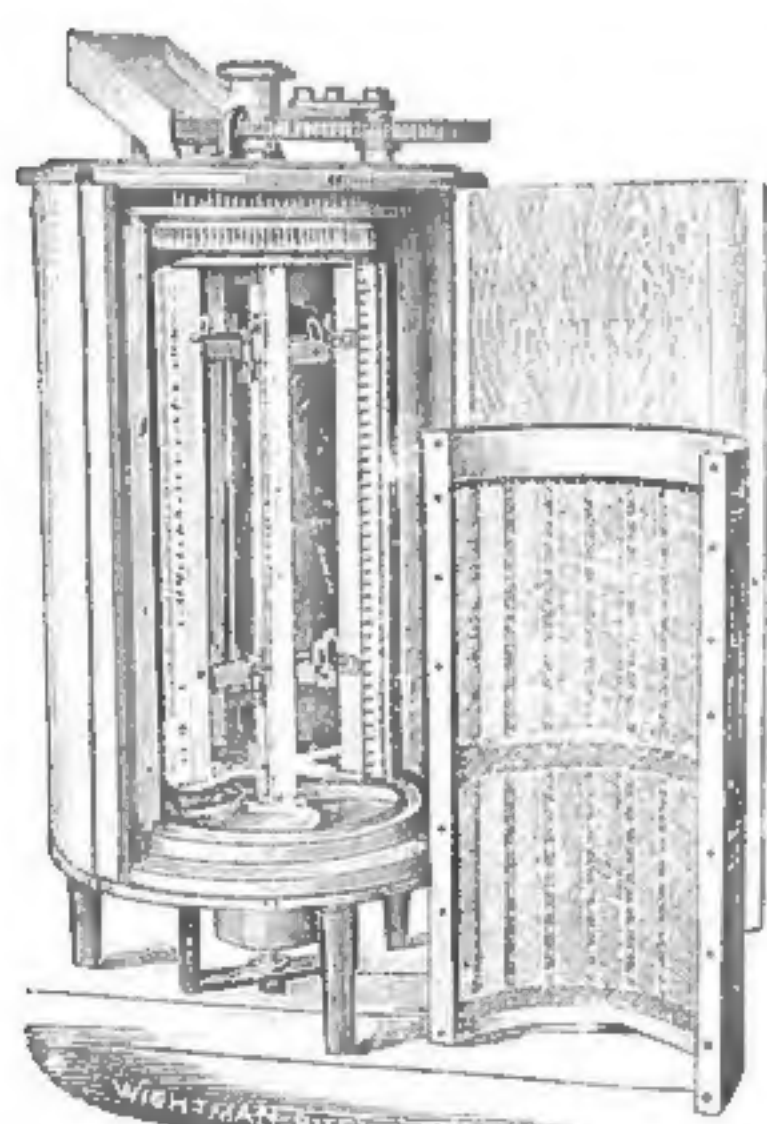
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